



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

November 17, 2020

BILL WASHBURN
REGISTRATION MANAGER
HELENA AGRI-ENTERPRISES, LLC
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TN 38107

Subject: Registration Review Label Mitigation for Clethodim /Label Amendment – Add supplemental label for okra and tree nuts, and revise Master label.
Product Name: CLETHODIM 2EC
EPA Registration Number: 38167-39
Application Date: 03/18/2020 & 06/09/2020
Decision Numbers: 561792 & 563712

Dear Mr. Washburn:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Clethodim Interim Decision, and has concluded that your submission is acceptable. The agency also completed review of your amended label referred to above, submitted in connection with registration under FIFRA, as amended, and has determined the label is also acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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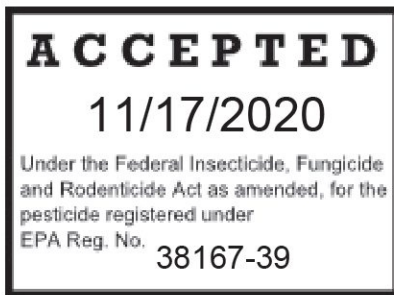
If you have any questions, please contact Francisco Llarena-Arias by phone at 703-347-0459, or via email at llarena-arias.francisco@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Jordan Page", is written over a light gray rectangular background.

Jordan Page, (Acting) Product Manager 24
Fungicide and Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Enclosure



Clethodim	Group	1	Herbicide
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Clethodim 2EC

ACTIVE INGREDIENT:	By Wt.
Clethodim: (E)-2-[1-[[[3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one	26.4%
OTHER INGREDIENTS:	73.6%
TOTAL:	100.0%

Contains petroleum distillates.
 Contains 2.0 lbs. clethodim per gallon.

KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
 (If you do not understand the label, find someone to explain it to you in detail).

FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR MEDICAL Emergencies call CHEMTREC at telephone no. 1-800-424-9300. For PRODUCT USE Information call telephone no. 949-679-3535.	
NOTE TO PHYSICIAN	
Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.	

See side panel for additional PRECAUTIONARY STATEMENTS.

EPA Reg. No. **38167-39**
 EPA Est. No. _____
 AD 120915

Manufactured for
Helena Agri-Enterprises, LLC
225 Schilling Boulevard, Suite 300
Collierville, TN 38017

NET CONTENTS: _____

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING**

Causes substantial but temporary eye irritation. Avoid contact with skin. Do not get in eyes, on skin, or on clothing. Harmful if swallowed or inhaled. Avoid breathing vapors or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate or viton \geq 14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Users should wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** apply where runoff is likely to occur. **DO NOT** apply where weather conditions favor drift from areas treated. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Use of this product is prohibited in the following areas where the species are known to exist:

Solano Grass: Solano County, California: the vernal lakes area bounded by the Union Pacific Railroad and Hastings Road to the north, Highway 113 to the east, Highway 12 to the south, and Travis Air Force Base to the west.

Wild Rice: Hays County, Texas.

Non-Target Organism Advisory:

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

PHYSICAL OR CHEMICAL HAZARDS

DO NOT use or store near heat for open flame.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL BEFORE USE. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions for training, decontamination, notification, and emergency assistance. It also contains specific instructions for training, decontamination, notification, and emergency assistance. It also contains specific instructions for training, decontamination, notification, and emergency assistance. It also contains specific instructions for training, decontamination, notification, and emergency assistance. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical-resistant gloves such as barrier laminate or viton \geq 14 mils
- Shoes plus socks
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift. **DO NOT** enter treated areas without protective clothing until sprays have dried.

WEED RESISTANCE MANAGEMENT

For resistance management, Clethodim 2 EC is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to Clethodim 2 EC and other Group 1 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of Clethodim 2 EC or other Group 1 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less

prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Helena Agri-Enterprises, LLC at 901-761-0050 or at www.helenachemical.com

PRODUCT INFORMATION

RESTRICTIONS

- Application on Long Island, New York, is restricted to no more than 16 fl oz of *Clethodim 2EC* (0.25 lb ai) per acre per year.
- **DO NOT** apply if rain is expected within 1 hour of application as control may be unsatisfactory.
- **DO NOT** apply a postemergence broadleaf herbicide within one day following application of *Clethodim 2EC* or reduced grass control may result.
- **DO NOT** not apply under conditions of stress. Applying *Clethodim 2EC* under conditions that do not promote active grass growth will reduce herbicide effectiveness. These conditions include drought, excessive water, extremes in temperature, low humidity and grasses either partially controlled or stunted from prior pesticide applications. Grasses under these kinds of stressful conditions will not absorb and translocate *Clethodim 2EC* effectively, and will be less susceptible to herbicide activity.
- **DO NOT** allow *Clethodim 2EC* to come in contact with desirable grass crops including corn, rice, sorghum, small grains, or turf, as these and other grass crops will be injured or killed. Minor leaf spotting may occur on treated plants under certain environmental conditions. New foliage is not affected.
- Aerial applications for all tree fruits and tree nuts uses are prohibited.

ROTATIONAL RESTRICTIONS

- **DO NOT** plant rotational crops until 30 days after application of *Clethodim 2EC* unless the crop is listed on *Clethodim 2EC* label.

PRECAUTIONS

- Grass crops including corn, rice, sorghum, small grains, or turf, etc. are highly sensitive to *Clethodim 2EC*.
- *Clethodim 2EC* may not be used on vegetable crops being grown for seed production unless specific use directions are provided.
- *Clethodim 2EC* is a selective postemergence herbicide for control of annual and perennial grasses.
- *Clethodim 2EC* does not control sedges or broadleaf weeds.
- Optimal perennial grass control can be obtained if rhizomes or stolons are cut up by preplant tillage practices, (discing, plowing, etc.) to stimulate maximum emergence of grass shoots. Cultural practices, including continuous no-tillage in which the perennial grass rhizomes or stolons are not cut up, result in a very staggered, non-uniform weed emergence. Due to this non-uniform weed emergence, no fewer than 2 *Clethodim 2EC* applications per year are specified at the appropriate weed-growth stage rate under continuous no-till conditions.
- While all the vegetable crops on this label have been tested for crop safety with *Clethodim 2EC*, not all specialty varieties of these crops have been tested. It is advised that, before applying *Clethodim 2EC* to specialty varieties of vegetable crops on this label, first apply a small section of the field to evaluate potential injury. Injury symptoms may appear as leaf speckling or stunting.
- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Tank mixes of *Clethodim 2EC* and broadleaf herbicides may result in reduced grass control. If grass regrowth occurs, an additional application *Clethodim 2EC* may be necessary. **AVOID SPRAY DRIFT.**
- Repeated use of *Clethodim 2EC* (or similar postemergence grass herbicides with the same mode of action) may lead to the selection of naturally occurring biotypes that are resistant to these products in some grass species.
- If poor performance occurs and cannot be attributed to adverse weather or application conditions, a resistant biotype may be present. This is most likely to occur in fields where other control strategies including crop rotation, mechanical removal, and other classes of herbicides are not used from year to year.

APPLICATION INFORMATION

Timing of Applications

Apply *Clethodim 2EC* postemergence to actively growing grasses, according to rate table directions. Applications made to grass plants stressed by insufficient moisture, or hot or cold temperatures, or to grass plants exceeding listed growth stages may result in unsatisfactory control. **DO NOT** apply under these conditions.

In arid regions where irrigation is used to supplement limited rainfall, *Clethodim 2EC* must be applied as soon as possible, after irrigation (within 7 days). In arid regions, a second application of *Clethodim 2EC* will provide more effective control of perennial grass weeds than a single application. Make second application to actively growing grass 2 to 3 weeks after emergence of new growth.

Cultivation of treated grasses 7 days prior to or within 7 days after application of *Clethodim 2EC* may reduce weed control. **DO NOT** APPLY CLETHODIM 2EC if rainfall is expected within one hour, since control may be reduced.

Control Symptoms

Treated grass weeds show a reduction in vigor and growth. Early chlorosis/necrosis of younger plant tissue is followed by a progressive collapse of the remaining foliage. Symptoms will generally be observed in 7 to 14 days after application, depending on grass species treated and environmental conditions.

ADDITION OF ADJUVANT OR CROP OIL CONCENTRATE

CROP	ADJUVANT SPECIFICATIONS
Alfalfa, Cotton, Dried Shell Pea and Bean [Subgroup 6C], Edible Podded Legume Vegetables [Subgroup 6A], Peanuts (including perennial), Potato, Soybean, Succulent Shelled Pea and Bean [Subgroup 6B], Sugar Beet and Sunflower	<p>Always use a crop oil concentrate* at 1.0 qt./A by ground or 1% v/v (but not less than 1 pt./A) in the finished spray volume by air.</p> <p>1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N or 32%N), or an equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added to Clethodim 2EC applications, in addition to the specified rate of crop oil concentrate. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.</p>
Artichoke (Globe), Asparagus, Bushberry [Subgroup 13-07B], Caneberry [Subgroup 13-07A], Canola [Subgroup 20A], Carrot, Clover, Cranberry, Cucurbits, Squash and Cucumbers [Subgroup 9B], Flax, Fruiting Vegetables (except Okra and Tomato)[Crop Group 8-10], Garden Beet, Garlic, Head & Stem Brassica Vegetables [Crop Group 5-16], Herbs [Subgroup 19A], Hops, Leaf Petiole Vegetables [Subgroup 22B], Leafy Brassica Greens [Subgroup 6-16B], Leafy Greens [Subgroup 4-16A], Mustard Seed, Onion (Dry Bulb & Green) [Subgroup 3-07B], Peaches, Peppermint and Spearmint Tops, Root Vegetables [Subgroup 1B], Safflower, Sesame, Stalk and Stem Vegetables [Subgroup 22A], Onion, Garlic and Shallots (Dry Bulb [Subgroup 3-07A], Onion, Green [Subgroup 3-07B], Strawberry, Tuberos and Corm Vegetables including Sweet Potato)[Subgroup 1C] and Tomato	<p>Always use a crop oil concentrate at 1% v/v in the finished spray volume unless tank mix instructions indicate otherwise.</p> <p>Addition of liquid fertilizer is not advised for these crops.</p>
Non-Bearing Food Crops, Ornamental Plants	<p>Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v). Use of crop oil concentrate is not advised since it may injure flowers and foliage.</p>
Conifer Trees, Fallow Land (and other non-producing agricultural areas), and Non-Crop or Non-Planted Areas	<p>Always use a crop oil concentrate containing at least 15% emulsifier at 1% v/v (but not less than 1 pt./A) in the finished spray volume.</p>

*Acceptable crop oil concentrates would be those that contain a minimum of 80% oils and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet the following criteria: be non-phytotoxic, contain only EPA-exempt ingredients, provide good mixing quality, and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils.

Ground Application

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 5 gals. and a maximum of 40 gals. of spray solution per acre. Under the following conditions a minimum of 10 gals. per acre is required: ultra-narrow row cotton, narrow row soybeans, broadleaf herbicide tank mixes, perennial grasses, volunteer corn, drought or stress conditions, heavy grass pressure or when grasses are at or near maximum height. Failure to use a minimum of 10 gals. per acre under these conditions can result in poor coverage and reduced grass control requiring repeat applications. Spray pressures must reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. **DO NOT** use flood nozzles.

Applications to onions (dry bulbs and green), garlic, and shallots (dry bulbs and green) must be made in a minimum of 20 gals. of spray solution per acre.

Air Application

Use a minimum of 3 gals. of spray solution per acre unless otherwise directed in this label. Increase spray volumes up to 10 gals. as grass or crop foliage becomes dense. In California, air applications to onions, garlic or shallots must be made in a minimum of 20 gals. of spray solution per acre. In states other than California, make air application to onions, garlic or shallots in a minimum of 10 gals. of spray solution per acre.

NOTE: Crop injury may occur when Clethodim 2EC is applied to onions, garlic or shallots with aerial equipment.

Spot Treatment

When using hand sprayers or high volume sprayers utilizing hand guns, mix 1/4% to 1/2% (0.33 oz. to 0.65 oz. per gal.) Clethodim 2EC and treat to wet vegetation, while not allowing runoff of spray solution. For uses requiring crop oil concentrate, include crop oil concentrate at 1% (1.3 oz. per gal.) by volume. For uses requiring non-ionic surfactant, include non-ionic surfactant at 1/4% (0.33 oz. per gal.) by volume.

NOTE: If Clethodim 2EC is applied as a spot treatment, care must be taken to not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.

CHEMIGATION - ONION (Dry Bulb), GREEN ONION AND GARLIC SPRINKLER IRRIGATION APPLICATION

Only apply *Clethodim 2EC* by chemigation to Onions (dry bulb and green) and Garlic crops.

May be applied to onions and garlic by sprinkler irrigation systems.

Apply *Clethodim 2EC* at the high rate for annual grasses (16 fl oz per acre)(0.25 lb a.i.) when the grass height is at the low end of the range (application to larger grasses may not provide adequate control). Add a crop oil concentrate containing at least 15% emulsifier at 1 quart per acre.

Apply *Clethodim 2EC* in 0.1 to 0.2 acre-inch of water either at the end of a regular irrigation set or as a separate application not associated with a regular irrigation using the least amount of water that provides proper distribution and coverage. Application of more than label quantities of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness. Use a metering device to inject the *Clethodim 2EC* into the irrigation water at a constant flow. Constant agitation must be maintained in the chemical supply tank during the entire period of herbicide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period.

Restrictions

- **DO NOT** apply *Clethodim 2EC* by chemigation in the states of Idaho, Montana, Oregon and Washington.
- **DO NOT** apply this product through any irrigation system connected to a public water system.
- **DO NOT** apply by chemigation to any other crop, or to this crop using any other type of irrigation system.
- **DO NOT** apply *Clethodim 2EC* through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- **DO NOT** apply this product through any other type of irrigation system (i.e. Public Irrigation System).
- **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.
- A person knowledgeable of the chemigation system and responsible for its operation or under supervision of the responsible person, must shut the system down and make necessary adjustments in case the need arise.
- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, including a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.
- Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move.

Precautions

- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.
- If you have any questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

MANDATORY SPRAY DRIFT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.

- Applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy. For all other ground applications, the nozzle must be no more than 3 feet from the target vegetation.
- Applicators are required to use a medium or coarser droplet size (ASABE S572. 1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

SPRAY DRIFT ADVISORIES

**THE APPLICATOR IS RESPONSIBLE FOR A VOIDING OFF-SITE SPRAY DRIFT.
BE A WARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.**

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size- Ground Boom

- Volume- Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure- Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle- Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size- Aircraft

- Adjust Nozzles- Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT- Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT- Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a

ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. Avoid applications during gusty wind conditions.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift."

CROP SPECIFIC DIRECTIONS, RESTRICTIONS AND LIMITATIONS FOR CLETHODIM 2EC

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Alfalfa including: Sainfoin Holy Clover Birdsfoot trefoil ³	15 days before grazing, feeding or harvesting (cutting for forage or hay)	6-16 fl oz ⁴ (0.094-0.25 lb. a.i.)	1 qt by ground or 1% v/v (but not less than 1 pt./A) by air ⁵	Refer to tank mix partners for feeding, grazing and harvesting restrictions. ^{5,6} For repeat applications make on a minimum of a 14 day interval. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Alfalfa Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Artichoke (Globe)	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Artichoke Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per year. DO NOT make more than 1 application per acre per year.				
Asparagus	1 day	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Asparagus Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
<p>Bean, Dry except Soybean [Dried Shell Pea and Bean (except soybean)] Subgroup 6C] including: Bean (<i>Lupinus</i> spp.) Grain Sweet White White Sweet Bean (<i>Phaseolus</i> spp.) Field Kidney Lima (dry) Navy Pinto Tepary Bean (<i>Vigna</i> spp.) Adzuki Bean Black-eyed Pea Catjang Cowpea Crowder Pea Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad (dry) Chickpea (garbanzo) Guar Lablab Bean Lentil</p>	30 days	6-16 fl. oz. (0.094-0.25 lb. a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	<p>Refer to appropriate Table for reduced rate directions for the control of small annual grasses.</p> <p>The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.</p> <p>For repeat applications make on a minimum of a 14 day interval.</p>
<p>Dry Bean except Soybean [Dried Shell Pea and Bean (except soybean)] Subgroup 6C] Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.</p>				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Bean, Succulent Shelled [Succulent Shelled Pea and Bean Subgroup 6B] including: Bean (<i>Phaseolus</i> spp.) Broad Bean (succulent) Lima Bean (green) Bean (<i>Vigna</i> spp.) Black-eyed Pea Cowpea Southern Pea	21 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	Refer to appropriate Table for reduced rate directions for the control of small annual grasses. DO NOT apply more than one 1 application per acre per year. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Succulent Shelled Bean [Succulent Shelled Pea and Bean Subgroup 6B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per year. DO NOT make more than 1 application per acre per year				
Beet, Garden	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Garden Beet Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Brassica Vegetables, Head & Stem [Crop Group 5-16][*] including: Broccoli Brussels sprouts Cabbage Cauliflower	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Brassica Vegetable, Head & Stem [Crop Group 5-16] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Bushberry [Subgroup 13-07B] , including: Aronia berry Blueberry, highbush Chilean guava Cranberry, highbush Currant, Black Currant, Buffalo Currant, native Currant, Red Elderberry European Barberry Gooseberry Honeysuckle, edible Huckleberry Jostaberry Juneberry Saskatoon berry Salal Sea Buckthorn Cultivars, varieties and/or hybrids of these	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	Apply at the base of the plant where grassy weeds are growing near the ground. For repeat applications make on a minimum of a 14 day interval.
Bushberry [Subgroup 13-07B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year. DO NOT apply to low growing berries. DO NOT apply to Bushberry grown for root stock.				
Caneberry [Subgroup 13-07A] , including: Blackberry Loganberry Raspberry, black Raspberry, red Raspberry, wild Cultivars, varieties and/or hybrids of these	7 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	Apply at the base of the plant where grassy weeds are growing near the ground. For repeat applications make on a minimum of a 14 day interval.
Caneberry [Subgroup 13-07A] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year. DO NOT apply to low growing berries. DO NOT apply to Caneberry grown for root stock.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Canola [including Rapeseed Subgroup 20A except flax seed, mustard seed and sesame seed] Borage Crambe Cuphea Echium Gold of Pleasure (Camelina) Hare's Ear Mustard Lesquerella Lunaria Meadowfoam Milkweed Oil Radish Poppy seed Rapeseed (canola) Sweet Rocket (not registered for use in California)	70 days	4-6 fl. oz. (0.06-0.094 lb a.i.)	1% v/v in the finished spray volume.	Crop injury may occur when Clethodim 2EC is applied during the bloom period. Verify crop safety to Clethodim 2EC on a small area of the crop, at the desired Clethodim 2EC rate and with the same non-ionic surfactant (NIS) that will be used on the field. If no crop response is evident 7 days after treatment, Clethodim 2EC may be used on the entire field at the rate tested and with the same NIS used in the crop safety test.
Canola [including Rapeseed Subgroup 20A except flax seed, mustard seed and sesame seed] Restrictions: DO NOT apply more than 6 fl oz/A (0.094 lb a.i./A) per application. DO NOT apply more than 6 fl oz/A (0.094 lb a.i./A) per year. DO NOT make more than 1 application per acre per year. DO NOT apply after crop has begun bolting.				
Carrot	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Carrot Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Clover	15 days before grazing, feeding or harvesting (cutting) for forage or hay	6-16 fl. oz. (0.094-0.25 lb a.i.)	1% v/v in the finished spray volume.	For use on clover grown in the states of Idaho, Oregon and Washington only.
Clover Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per year. DO NOT make more than 1 application per acre per year.				
Corn, Field For burndown of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn. See Directions for Use in Roundup Ready Field Corn (Burndown) table.	90 days	3 fl. oz. (0.05 lb a.i.)	DO NOT use COC or MSO with Clethodim 2EC in this use pattern.	
Field Corn Restrictions: DO NOT make more than 1 application per year. DO NOT apply more than 3 fl. oz./A (0.05 lb a.i./A) in a single application. DO NOT apply more than 3 fl. oz./A (0.05 lb a.i./A) per year. DO NOT replant no sooner than 6 days after application to control the existing stand.				
Cotton (including cotton grown for seed)	60 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Cotton (including cotton grown for seed) Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year. DO NOT graze on treated fields or feed treated forage or hay to livestock.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Cranberry	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Cranberry Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year. DO NOT apply between the “hook” stage and full fruit set.				
Cucurbits, Squash, Cucumber [Subgroup 9B] including: Chayote (fruit) Chinese Wax Gourd Citron Melon Cucumber Gherkin Gourd, Edible Muskmelons (all) including: Cantaloupes Honeydew Melon Pumpkin Squash (all) Including: Squash, Summer Squash, Winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash) Watermelon	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Cucurbits, Squash, Cucumbers [Subgroup 9B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Fallow Land Conifer Trees (and other non-producing agricultural areas) Non-Crop or Non-Planted Areas	N/A	6-16 fl. oz. (0.094-0.25 lb a.i.)	1% v/v (but not less than 1 pt./A) in the finished spray volume using a crop oil concentrate containing at least 15% emulsifier.	For repeat applications make on a minimum of a 14 day interval.
Fallow Land Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year. DO NOT plant any crop for 30 days after application unless clethodim is registered for use in that crop.				
Flax (not registered for use in California)	60 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	Apply prior to bloom. Crop injury may occur when Clethodim 2EC is applied during the bloom period. For repeat applications make on a minimum of a 14 day interval.
Flax Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Fruiting Vegetable (except okra and tomato) [Crop Group 8-10] including: Eggplant Groundcherry Pepino Peppers (all) Tomatillo	20 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Fruiting Vegetable (except okra and tomato) [Crop Group 8-10] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Herbs [Subgroup 19A] including: Angelica Balm Basil Borage Burnet Chamomile Catnip Chervil (dried) Chive Chive, Chinese Clary Coriander (leaf) Costmary Cilantro (leaf) Curry (leaf) Dill (dillweed) Horehound Hyssop Lavender Lovage (leaf) Marigold Marjoram (<i>Origanum</i> spp.) Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory, Summer and Winter	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	Clethodim 2EC has not been tested on all herbs, and herb varieties. It is the responsibility of the user to test Clethodim 2EC on a small portion of the crop to be treated before treating the entire field. Crop safety must be verified to Clethodim 2EC on a small area of the herb crop, at the desired Clethodim 2EC rate and with the same crop oil concentrate that will be used on the herb field. If no crop response is evident seven 7 days after treatment, Clethodim 2EC may be used on the entire field at the rate tested and with the same crop oil used in the crop safety test. For repeat applications make on a minimum of a 14 day interval.
Herbs [Subgroup 19A] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Hops	21 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval.
Hops Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Leaf Petiole Vegetables [Subgroup 22B] including: Cardoon Celery Celtuce Chinese Celery Fennel, Florence (Finocchio) Rhubarb Swiss Chard	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval.
Leaf Petiole Vegetables [Subgroup 22B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Leafy Brassica Greens [Subgroup 6-16B][*] (except Radish Leaves, Turnip Greens, and Watercress) including: Broccoli Raab Cabbage, Chinese (bok choy) Collards Kale Mizuna Mustard Greens Mustard Spinach Rape Greens	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval.
Leafy Brassica Greens [Subgroup 6-16B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Leafy Greens [Subgroup 4-16A][*] including: Amaranth Chinese Spinach Leafy Amaranth Tampala Arugula (roquette) Chervil Chrysanthemum, Edible-leaved Chrysanthemum, Garland Corn Salad Cress, Garden Upland (yellow rock and winter) Dandelion Dock (sorrel) Endive (escarole) Lettuce, Head and Leaf Orach Parsley Purslane Garden Winter Radicchio (red chicory) Spinach New Zealand Vine (Indian & Malabar)	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Leafy Greens [Subgroup 4-16A] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Legume Vegetables, Edible Podded [Subgroup 6A] including: Bean (<i>Phaseolus</i> spp.) Runner Snap Wax Bean (<i>Vigna</i> spp.) Asparagus Chinese Longbean Moth Yardlong Jackbean Pea (<i>Pisum</i> spp.) Dwarf Edible-pod Snow Sugar Snap Pigeon Sword Bean	21 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	For peas apply before bloom, but no later than 21 days before harvest. Refer to appropriate Table for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control grasses including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Legume Vegetables, Edible Podded [Subgroup 6A] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per year. DO NOT make more than 1 application per acre per year.				
Peppermint and Spearmint Tops	21 days	6-16 fl. oz ⁴ (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A by air).	For repeat applications make on a minimum of a 14 day interval.
Peppermint and Spearmint Tops Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Mustard Seed [*] (not registered for use in California)	75 days	4-6 fl. oz. (0.06-0.094 lb a.i.)	1% v/v in the finished spray volume.	Crop injury may occur when Clethodim 2EC is applied during the bloom period.
Mustard Seed Restrictions: DO NOT apply after crop has begun bolting. DO NOT apply more than 6 fl oz/A (0.094 lb a.i./A) per application. DO NOT apply more than 12 fl oz/A (0.188 lb a.i./A) per year. DO NOT make more than 2 application per acre per year.				
Onion, Bulb (Subgroup 3-07A) (Dry Bulb Only) Garlic Shallot (Dry Bulb Only)	45 days	6-16 fl. oz. ^{7,8} (0.094-0.25 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval. Minimum of 20 gals./A spray volume by ground in entire U.S. Minimum of 20 gals./A spray volume by air in California. ⁹ In states other than California, make air applications to onions, garlic or shallots in a minimum of 10 gals./A.
Onion, Garlic and Shallot[Subgroup 3-07A] Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year. When applying by air, DO NOT exceed 8 fl oz (0.125 lb ai) per acre per application and 16 fl oz (0.25 lb ai) per acre per year. If applied as a spot treatment to onion or garlic, DO NOT exceed the maximum rate allowed on a "per acre" basis. In California, DO NOT apply Select 2 EC Herbicide to garlic or onion until the crop has at least two full leaves. Use a 14 day spray interval between the application of Clethodim 2EC and liquid nitrogen or other herbicide applications. Injury to crop may occur when shorter intervals are observed. For Garlic When applying by ground, DO NOT exceed 8 fl oz (0.125 lb ai) per acre per application or 16 fl oz (0.250 lb ai) per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Pea, Dried Shelled [Subgroup 6C] including: Pea (<i>Pisum</i> spp.) Field Pigeon	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1 qt. by ground or 1% v/v (but no less than 1 pt./A) by air. ⁵	Apply before bloom but not later than 30 days prior to harvest. ¹⁰ Refer to appropriate Table for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Shelled Pea [Subgroup 6C] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per year. DO NOT make more than 1 application per acre per year.				
Pea, Succulent Shelled [Subgroup 6B] including: Pea (<i>Pisum</i> spp.) English Pea Garden Pea Green Pea Pigeon Pea	21 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	Apply before bloom but no later than 21 days prior to harvest. ¹⁰ Refer to appropriate Table for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Succulent Shelled Pea [Subgroup 6B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per year. DO NOT make more than 1 application per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Peach	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Peach Restrictions: DO NOT apply to Peach grown for root stock. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Peanut (including Perennial)	40 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Peanut Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Potato	30 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Potato Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Radish Radish Leaves	15 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Radish, and Radish Leaves Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Root Vegetables [Subgroup 1B] (except Sugarbeets and Radish), including: Chicory Ginseng Horseradish Turnip	30 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Root Vegetables [Subgroup 1B] Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Safflower	70 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Safflower Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Sesame	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Sesame Restrictions: DO NOT apply during flowering. DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Soybean	60 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	Refer to appropriate Table for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Soybean Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Strawberry	4 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval.
Strawberry Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				
Sugar Beet	40 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	Refer to appropriate Table for reduced rate directions for the control of small annual grasses. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Sugar Beet Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Sunflower [Subgroup 20B]	70 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. ⁵	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Sunflower [Subgroup 20B] Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Tuberous and Corm Vegetables [Subgroup 1C] (except Potato) including Sweet Potato, Yam and other Tuberous and Corm Vegetables (except Potato) including: Artichoke Chinese Jerusalem Cassava Bitter Sweet Ginger	30 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1% v/v in the finished spray volume	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn. For repeat applications make on a minimum of a 14 day interval.
Tuberous and Corm Vegetables [Subgroup 1C] Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				

Crops ¹	Minimum Time From Application To Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ²	Special Use Instructions
Tomato	20 days	6-16 fl. oz. (0.094-0.25 lb a.i.)	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval.
Tomato Restrictions: DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 2 applications per acre per year.				
Turnip Greens	14 days	6-8 fl. oz. (0.094-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Turnip Green Restrictions: DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. DO NOT make more than 4 applications per acre per year.				

N/A = Not Applicable

[*Not for use in California.]

- ¹ **DO NOT** apply Clethodim 2EC on vegetable crops being grown for seed production unless specific use directions are provided.
- ² Acceptable crop oil concentrates would be those which contain a minimum of 80% oils and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: be non- phytotoxic, contain only EPA-exempt ingredients, provide good mixing quality and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. See the Addition of Adjuvant and Crop Oil Concentrate section for further information.
- ³ Clethodim 2EC may be applied to seedling or established alfalfa grown for seed, hay, silage, green chop or direct grazing.
- ⁴ For weed control in established alfalfa and peppermint and spearmint tops, the minimum use rate is 10 fl. oz./A (0.15 lb a.i./A).
- ⁵ 1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N or 32%N), or an equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added to Clethodim 2EC applications, in addition to the specified rate of crop oil concentrate.
- ⁶ **DO NOT** apply Clethodim 2EC plus 2,4-DB as a tank mix to alfalfa unless the 60 day feeding, grazing, and harvesting restricting on the 2,4-DB label can be observed.
- ⁷ For ground applications to garlic or shallot, **DO NOT** exceed 8 fl. oz./A (0.125 lb a.i./A) in a single application. For air applications to onion, garlic or shallot, **DO NOT** exceed 8 fl. oz./A (0.125 lb a.i./A) in a single application. For garlic and shallot, **DO NOT** exceed 2 applications per year. In CA for air applications to onion, **DO NOT** exceed 2 applications per year.
- ⁸ If Clethodim 2EC is applied as a spot treatment to onion, garlic, shallot, or non-bearing food crops, take care to not exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.
- ⁹ In California, **DO NOT** apply Clethodim 2EC to onion, garlic, or shallot until the crop has at least two full leaves. In California 14 day spray intervals are advised between the application of Clethodim 2EC and liquid nitrogen or other herbicide applications. Injury to crop may occur when shorter intervals are observed.

¹⁰ Applications of Clethodim 2EC to peas during the bloom period could result in severe crop injury, including loss of yield and delayed maturity.

IMPORTANT

Plant safety to Clethodim 2EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is advised that the user determine if the herbicide can be used safely of a few plants prior to widespread application. Neither the seller nor the manufacturer of Clethodim 2EC have investigated the safety factor to plants not listed on the label.

NON-BEARING FRUIT AND NUT CROPS

CLETHODIM 2EC IS NOT TO BE APPLIED TO NON-BEARING FRUIT OR NUT CROPS WHICH ARE GROWN FOR ROOT STOCK.

Crop injury to non-bearing fruit and nut crops can occur if Clethodim 2EC is improperly applied. Clethodim 2EC is not to be applied directly over the top of these plant types. Instead, direct spray at the base of the plant where grassy weeds are growing near the ground.

Non-bearing fruit and nut crops are plants which will not bear fruit or nuts for at least one year following Clethodim 2EC application.

Common Name	Scientific Name	Use Rates Per Acre	Special Use Instructions
Apples	<i>Malus</i> spp.	6-8 fl. oz. (0.1-0.125 lb a.i.)	For repeat applications make on a minimum of a 14 day interval. Non-bearing fruit and nut crops are plants which will not bear fruit or nuts for at least one year following application. Use of crop oil concentrate may injure flowers and foliage. Sugar maples cannot be tapped for syrup within one year of application.
Berries	<i>Vaccinium</i> spp. <i>Rubus</i> spp.		
Cherry, Sweet	<i>Prunus avium</i>		
Citrus Fruits	<i>Citrus</i> spp.		
Grapes	<i>Vitis</i> spp.		
Olives	<i>Olea</i> spp.		
Peach	<i>Prunus persica</i>		
Pears	<i>Pyrus communis</i>		
Prunes	<i>Prunus</i> spp.		
Stone Fruits	<i>Prunus</i> spp.		
Strawberries	<i>Fragaria</i> spp.		
Tree Nuts			
Almonds	<i>Prunus triloba</i>		
Filbert	<i>Corylus maxima</i>		
Pecan	<i>Carya illinoensis</i>		
Pistachio	<i>Pistacia vera</i>		
Walnut	<i>Jugians</i> spp.		
RESTRICTIONS:			
<ul style="list-style-type: none"> • DO NOT apply to non-bearing fruit or not crops which are grown for root stock. • DO NOT apply more than 8 fl oz/A (0.125 lb a.i./A) per application. • DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. • DO NOT make more than 4 applications per acre per year. 			

CONIFER TREES

Clethodim 2EC can be used to control labeled grasses in Christmas tree farms, conifer nurseries, and conifer plantations (but not in forests).

COMMON NAME	SCIENTIFIC NAME	Use Rates Per Acre	Special Use Instructions
Arborvitae, American	<i>Thuja occidentalis</i>	6-16 fl. oz. (0.1-0.25 lb a.i.)	Can be used to control labeled grasses in Christmas tree farms, conifer nurseries and conifer plantations (but not in forests). Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v). For repeat application make on a minimum of a 14 day interval.
Cedars	<i>Cedrus</i> spp.		
Cypress	<i>Taxodium</i> spp.		
Fir, Douglas	<i>Pseudotsuga menziesii</i>		
Firs	<i>Abies</i> spp.		
Hemlock, Canadian/Eastern	<i>Tsuga Canadensis</i>		
Hemlock, Western	<i>Tsuga heterophylla</i>		
Pines	<i>Pinus</i> spp.		
Spruces	<i>Picea</i> spp.		
Yew	<i>Taxus</i> spp.		
RESTRICTIONS:			
<ul style="list-style-type: none"> • DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. • DO NOT make more than 2 applications at 16 fl oz/A (0.25 lb a.i./A) per acre per year or 4 applications at 8 fl oz/A (0.125 lb a.i./A) per acre per year. • DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. 			

NON-CROP OR NON-PLANTED AREAS

The following areas are considered non-crop or non-planted areas: rights-of-way including railroads, highways, roads, dividers, medians, pipelines, public utility lines, pumping stations, transformer stations and substations. Around airports, electric utilities, commercial buildings, manufacturing plants, storage yards, rail yards, fence lines, parkways, and post-harvest crop-lands. Also beneath greenhouse benches and around golf courses.

Grass Species	Weed Stage	Application Rates	
		Minimum Rate Per Acre	Special Instructions
Annual and perennial grasses that exceed height claimed for control on height chart above.	Up to and including grasses in the seed head stage	6 fl. oz. (0.1 lb a.i.)	Add a crop oil concentrate at 1 qt/A by ground to the finished spray volume. For repeat application make on a minimum of a 14 day interval.
RESTRICTIONS:			
<ul style="list-style-type: none"> • DO NOT apply more than 16 fl oz/A (0.25 lb a.i./A) per application. • DO NOT make more than 2 applications per acre per year. • DO NOT apply more than 32 fl oz/A (0.5 lb a.i./A) per year. 			

DIRECTIONS FOR ANNUAL GRASSES

(EXCEPT FOR IN ESTABLISHED ALFALFA AND PEPPERMINT AND SPEARMINT TOPS)

- Apply only to actively growing grasses at listed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the listed growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (INCHES)	RATE FL. OZ. / ACRE	HIGH RATE ¹
Barnyardgrass	<i>Echinochloa crus-galli</i>	2 to 8	6 (0.1 lb a.i.)	8 (0.125 lb a.i.)
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>	2 to 6	6	8
Brome				
California	<i>Bromus carinatus</i>	2 to 6	6	8
Cheat	<i>Bromus secalinus</i>	2 to 6	6	8
Downy	<i>Bromus tectorum</i>	2 to 6	6	8
Ripgut	<i>Bromus diandrus</i>	2 to 6	6	8
Canarygrass	<i>Phalaris canariensis</i>	1 to 4	6	8
Crabgrass				
Hairy	<i>Digitaria adscendens</i>	2 to 6**	6	8
Large	<i>Digitaria sanguinalis</i>	2 to 6**	6	8
Smooth	<i>Digitaria ischaemum</i>	2 to 6**	6	8
Southern	<i>Digitaria ciliaris</i>	2 to 6**	6	8
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	2 to 6**	6	8
Fall Panicum	<i>Panicum dichotomiflorum</i>	2 to 8	6	8
Field Sandbur	<i>Cenchrus incertus</i>	2 to 6	6	8
Foxtail				
Giant	<i>Setaria faberi</i>	2 to 12	6	8
Green	<i>Setaria viridis</i>	2 to 8	6	8
Yellow	<i>Setaria glauca</i>	2 to 8	6	8
Goosegrass	<i>Eleusine indica</i>	2 to 6**	6	8
Itchgrass	<i>Rottboellia cochinchinensis</i>	2 to 6	6	8
Junglerice	<i>Echinochloa colona</i>	2 to 6	6	8
Lovegrass (Stinkgrass)	<i>Eragrostis ciliaris</i>	2 to 6	6	8
Rabbitsfootgrass	<i>Polypogon monspeliensis</i>	1 to 4	6	8
Red Rice	<i>Oryza sativa</i>	1 to 3	6	8
Ryegrass				
Hardy	<i>Lolium remotum</i>	2 to 6	6	8
Italian	<i>Lolium multiflorum</i>	2 to 6	6	8
Seedling Johnsongrass	<i>Sorghum halepense</i>	4 to 10	6	8
Shattercane	<i>Sorghum bicolor</i>	6 to 18	6	8
Southwestern Cupgrass	<i>Eriochloa gracilis</i>	2 to 6	6	8
Sprangle Top				
Amazon	<i>Leptochloa panicoides</i>	2 to 6	6	8
Bearded	<i>Leptochloa fascicularis</i>	2 to 6	6	8
Mexican	<i>Leptochloa uninervis</i>	2 to 6	6	8
Red	<i>Leptochloa filiformis</i>	2 to 6	6	8
Texas Panicum	<i>Panicum texanum</i>	2 to 6	6	8
Volunteer Cereals ²				
Barley	<i>Hordeum vulgare</i>	2 to 6	6	8
Oats	<i>Avena sativa</i>	2 to 6	6	8
Rye	<i>Secale cereale</i>	2 to 6	6	8
Wheat	<i>Triticum aestivum</i>	2 to 6	6	8

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (INCHES)	RATE FL. OZ. / ACRE	HIGH RATE ¹
Volunteer Corn ³	<i>Zea mays</i>	4 to 12	4	8
Volunteer Corn ³	<i>Zea mays</i>	12 to 24	6	8
Volunteer Corn (S.R.) ⁴	<i>Zea mays</i>	4 to 12	6	8
Volunteer Grain Sorghum	<i>Sorghum bicolor</i>	8 to 12	6	8
Wild Oats	<i>Avena fatua</i>	2 to 6	6	8
Wild Proso Millet	<i>Panicum miliaceum</i>	2 to 10	6	8
Witchgrass	<i>Panicum capillare</i>	2 to 8	6	8
Woolly Cupgrass	<i>Eriochloa villosa</i>	2 to 8	6	8

* Generally occurs between 3-leaf stage and tillering.

** Length of lateral growth.

¹ Rates higher than 8 fl. oz./A (0.125 lb a.i./A) may be applied in certain geographic areas, cropping situations, or environmental conditions, where experience has shown that higher rates are needed for satisfactory control of annual grasses. In these situations, rates from 8 to 16 fl. oz./A (0.125 – 0.25 lb a.i./A) may be applied.

² When a cereal grain crop (including wheat) is interseeded for crop establishment or is planted as wind breaks to aid in crop establishment, the minimum Clethodim 2EC use rate for control is 8 fl. oz./A (0.125 lb a.i./A).

³ Includes Roundup Ready®, Liberty Link®, and IMI-CORN® volunteer corn.

⁴ Sethoxydim resistant volunteer corn.

**DIRECTIONS FOR ANNUAL & PERENNIAL GRASS CONTROL
IN ESTABLISHED ALFALFA AND PEPPERMINT AND SPEARMINT TOPS WITH
CLETHODIM 2EC**

GRASS SPECIES	WEED STAGE	RATE FL. OZ. / ACRE	HIGH RATE
Annual & Perennial Grasses Listed in Grass Table	See Table	10 (0.15 lb a.i.)	16 (0.25 lb a.i.)

Mowing: The best control of annual grasses can be achieved by applying Clethodim 2EC before grass weeds are mowed. Once a grass is mowed it becomes tougher to control, as much of the available leaf surface has been removed. In areas without a killing frost, some annuals can over-winter after having been mowed multiple times. These grasses form large crowns and may contain many viable buds. These grasses, even though they may be an annual grass, may require repeated applications of Clethodim 2EC for partial or complete control.

Irrigated Alfalfa and Peppermint and Spearmint Tops: Irrigation practices can be very critical to the successful use of Clethodim 2EC in established alfalfa and peppermint and spearmint tops and may be necessary to initiate active growth of the weeds prior to application. Applications 2 to 4 days after an irrigation are most effective. Irrigation made shortly after application (2 days) can be effective, but more consistent grass control occurs when the irrigation is made before the application.

Aerial Application: Apply Clethodim 2EC in a minimum of 10 GPA in established alfalfa and peppermint and spearmint tops when applying by air.

Annual Grass Control: Apply Clethodim 2EC at the grass sizes indicated in the Directions for Annual Grass Table and rates indicated. If a grass has been cut, apply Clethodim 2EC after active growth has resumed and regrowth has reached the minimum height and before it reached the maximum height indicated. Apply before the alfalfa/peppermint and spearmint tops canopy covers the grasses and interferes with the spray coverage. Some annual grasses are spring- and summer-germinating plants, while others are fall-germinating plants, and the time they are actively growing and most susceptible to Clethodim 2EC may vary from region to region. Also some annuals germinate over an extended period of

time, and because control of small grasses is desired, applications after each weed flush may be required. As a general rule spray spring and summer-germinating grasses as early in the season as possible, after initial green-up. Spray fall-germinating weeds in the fall soon after they begin growing but before any damage is done due to frost. Late fall applications may be less effective due to environmental conditions, including frost, slower plant growth, or the onset of flowering.

Perennial Grass Control: Clethodim 2EC effectively controls perennial grasses including bermudagrass, Johnsongrass, quackgrass, wirestem muhly, tall fescue, foxtail barley and orchardgrass. Due in part to lack of tillage, perennial grasses are more difficult to control in a perennial crop including established alfalfa or peppermint and spearmint tops. A program of repeated applications is usually necessary for best results. The best way to control perennial grasses is to do so in the year of stand establishment before rhizomes and stolons become large and difficult to kill.

Use the high rate under heavy grass pressure and/or when grasses are at or near maximum height. Always add a crop oil concentrate at 1 qt./A by ground or 1% v/v (but not less than 1 pt./A) to the finished spray volume by air.

**DIRECTIONS FOR ANNUAL BLUEGRASS CONTROL
WITH CLETHODIM 2EC**

GRASS SPECIES	WEED STAGE	RATE FL. OZ./ACRE	HIGH RATE
Annual Bluegrass (<i>Poa annua</i>)	To 4-leaf	6* (0.1 lb a.i.)	16 (0.25 lb a.i.)

Apply under favorable soil moisture and humidity, which exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s).

Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass.

Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.

Always add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.

*Use a minimum of 10 fl. oz./A (0.15 lb a.i.) to control annual bluegrass in seedling and established alfalfa and peppermint and spearmint tops.

DIRECTIONS FOR USE IN ROUNDUP READY FIELD CORN (BURNDOWN)

GRASS SPECIES	WEED SIZE (inches)	RATE WHEN APPLIED ALONE OR WITH GLYPHOSATE
Field Corn	Up to 12	3 fl. oz./A (0.46 lb a.i./A)

For control or existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn.

Care must be taken to avoid in-field boom (spray) overlaps or excessive crop injury may occur.

Replant no sooner than 6 days after application.

Adjuvant specifications: NIS at 0.25% v/v plus AMS at 2.5 to 4 lbs./A.

DO NOT use a COC or MSO with Clethodim 2EC in this use pattern.

**DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES
IN CANOLA, DRY SHELLLED BEAN & PEA (INCLUDING SOYBEAN), EDIBLE PODDED LEGUME
VEGETABLES, FLAX, MUSTARD SEED, SUCCULENT BEAN & PEA AND SUGAR BEET
(REDUCED RATE DIRECTIONS NOT FOR USE IN CALIFORNIA)**

- Apply only to actively growing grasses at listed weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the specified growth stage for treatment.
- Regrowth by tillering may occur if application is made when plants are stressed by lack of moisture, excessive moisture, low or high temperatures, and/or under very low humidity.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (INCHES)	RATE FL. OZ./ACRE¹
Barnyardgrass	<i>Echinochloa crus-galli</i>	1 to 4	4 (0.06 lb a.i.)
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>	1 to 4	5 (0.08 lb a.i.)
Crabgrass			
Large	<i>Digitaria sanguinalis</i>	1 to 3*	4
Large	<i>Digitaria sanguinalis</i>	1 to 4*	5
Smooth	<i>Digitaria ischaemum</i>	1 to 3*	4
Smooth	<i>Digitaria ischaemum</i>	1 to 4*	5
Southern	<i>Digitaria ciliaris</i>	1 to 4*	5
Fall Panicum	<i>Panicum dichotomiflorum</i>	1 to 4	4
Foxtail			
Giant	<i>Setaria faberi</i>	1 to 4	4
Green	<i>Setaria viridis</i>	1 to 4	4
Millet	<i>Setaria italic</i>	1 to 4	5
Yellow	<i>Setaria glauca</i>	1 to 4	4
Seedling Johnsongrass	<i>Sorghum halepense</i>	1 to 6	5
Shattercane	<i>Sorghum bicolor</i>	4 to 10	4
Texas Panicum	<i>Panicum texanum</i>	1 to 4	5
Volunteer Cereals			
Barley	<i>Hordeum vulgare</i>	1 to 4	5
Oats	<i>Avena sativa</i>	1 to 4	5
Wheat	<i>Triticum aestivum</i>	1 to 4	5
Volunteer Corn **	<i>Zea mays</i>	4 to 12	4
Wild Proso Millet	<i>Panicum miliaceum</i>	1 to 6	4
Wild Oats	<i>Avena fatua</i>	1 to 4	5

* Length of lateral growth

** Not S.R. Corn

¹ Always add a crop oil concentrate at 1 qt./A by ground application to the finished spray volume.

DIRECTIONS FOR PERENNIAL GRASSES

- Apply only to actively growing grasses at listed weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the specified growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL. OZ./ ACRE	HIGH RATE
Bermudagrass (<i>Cynodon dactylon</i>)			
First Application	3 (or up to 6" runners)	8 (0.125 lb a.i.)	16 (0.25 lb a.i.)
Repeat Application(s) (if regrowth occurs)	3 (or up to 6" runners)	8	16
Fescue, Tall (<i>Festuca arundinacea</i>)			
First Application	4 to 8	8	16
Repeat Applications(s) (if regrowth occurs)	4 to 8	8	16
Foxtail Barley (<i>Hordeum jubatum</i>)			
First Application	2 to 6	8	16
Repeat Application(s) (if regrowth occurs)	2 to 6	8	16
Orchardgrass (<i>Dactylis glomerata</i>)			
First Application	4 to 8	8	16
Repeat Applications(s) (if regrowth occurs)	4 to 8	8	16
Quackgrass* (<i>Elytrigia repense</i>)			
First Application	4 to 12	8	16
Repeat Applications(s) (if regrowth occurs)	4 to 12	8	16
Rhizome Johnsongrass (<i>Sorghum halepense</i>)			
First Application	12 to 24	8	16
Repeat Applications(s) (if regrowth occurs)	6 to 18	6	8
Wirestem Muhly (<i>Muhlenbergia frondosa</i>)			
First Application	4 to 8	8	16
Repeat Applications(s) (if regrowth occurs)	4 to 8	8	16
Perennial Bluegrass*			
Roughstalk (<i>Poa trivialis</i>)			
Kentucky (<i>Poa pratensis</i>)			
First Application	2 to 4	8	16
Repeat Applications(s) (if regrowth occurs)	2 to 4	8	16
Bentgrass* (<i>Agrostis</i> spp.)			
First Application	2 to 4	-	16
Repeat Applications(s) (if regrowth occurs)	2 to 4	-	16

*Control of quackgrass, perennial bluegrass and bentgrass with Clethodim 2EC may be enhanced by adding AMS at 2.5 to 4.0 lbs./A.

TANK MIXES PRODUCT INFORMATION

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive use directions for use and precautionary statements of each product in the tank mixture.

The labels for each of the herbicides specified for tank mixing with Clethodim 2EC are unique to the characteristics of those products and contain restrictions and limitations that may be more restrictive than the Clethodim 2EC label in certain considerations. Those concerns may include, but are not limited to:

1. Geographic restrictions – all products are not registered for use in all areas and rates may vary from one region of labeled use to another;
2. Crop rotation restrictions;
3. Applicator certification requirements;
4. Worker safety rules (e.g., protective clothing, reentry time, posting);
5. Soil type or soil characteristics (e.g., pH, OM);
6. Maximum dosage or number of applications per year;
7. Rain free period required; or
8. Application timing (e.g., pre-harvest interval)
9. **DO NOT** exceed the total yearly rates.

THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED.

TANK MIX APPLICATION OF CLETHODIM 2EC AND BROADLEAF HERBICIDES FOR CONTROL OF GRASSES AND BROADLEAF WEEDS

- Apply only to actively growing grass and broadleaf weeds at labeled height or growth stage listed on each label.
- Apply when the first grass or broadleaf weed species in a mixed population reaches the labeled height or growth stage for treatment.
- Apply under favorable soil moisture and humidity that exist a few days after rainfall or within seven days after irrigation.
- Always add the appropriate adjuvant to the spray mix at the rate specified for each specific tank mix combination.
- Tank mix applications may sometimes result in reduced grass control and possible increases in crop injury as compared to either product used alone. If regrowth occurs, or an additional flush of new grass emerges, make a second application of Clethodim 2EC, as specified in the respective size and rate tables.
- **DO NOT** tank mix Clethodim 2EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. While agitating, add the correct amount of Clethodim 2EC. Agitation must create a rippling or rolling action on the water surface.
3. If tank mixing Clethodim 2EC with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates, and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
4. Add any required adjuvants (crop oil concentrate, non-ionic surfactant and/or nitrogen solution).
5. Fill spray tank to desired level with water. **Agitation must continue until all spray solution has been applied.**

Failure to agitate the spray solution may result in improper mixing of the herbicides and unsatisfactory weed control. Mixing and compatibility qualities must be verified by a jar test.

INFORMATION ON ANTAGONISM

Tank mixes of Clethodim 2EC with postemergence broadleaf herbicides have shown some reduction or failure to control certain grass species which would have otherwise been controlled when Clethodim 2EC is applied alone. Activity of the postemergence broadleaf herbicide in the tank mix is not affected.

ALFALFA

Table 1. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR ALFALFA
(Refer to the direction tables above for specified grasses and growth stages)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC + 2,4-DB ⁴	10 to 16 fl. oz. (0.15 – 0.25 lb a.i.) + Refer to 2,4DB label	10 to 16 fl. oz. (0.15 – 0.25 lb a.i.) + Refer to 2,4DB label	1%	1%
CLETHODIM 2EC + Imazethapyr ⁵	10 to 16 fl. oz. (0.15 – 0.25 lb a.i.) + Refer to Imazethapyr label	-	1%	1%
CLETHODIM 2EC + Bromoxynil ^{6,7}	10 to 16 fl. oz. (0.15 – 0.25 lb a.i.) + Refer to Bromoxynil label	-	0.5%	0.5%

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate specifications.

² Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

⁴ Clethodim 2EC plus 2,4DB may increase the severity of crop injury when tank mixed. Alfalfa plants will generally outgrow this temporary crop injury within a few weeks.

⁵ Before using this tank mix, read and understand the imazethapyr label for geographical restrictions and restrictions regarding alfalfa growth stage and type. Failure to do so can result in crop injury to alfalfa. **RESTRICTION: DO NOT** feed, graze, or harvest alfalfa for 30 days following an application of imazethapyr to alfalfa.

⁶ In the states of Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada and the western halves of North Dakota, South Dakota, Nebraska, and Kansas: Clethodim 2EC plus bromoxynil tank mix must be applied in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliates. Unacceptable crop injury may occur to alfalfa seedlings less than the 2 trifoliolate leaf stage. Clethodim 2EC plus bromoxynil applications made when temperatures are expected to exceed 80°F at (and 3 days following) application can result in unacceptable crop injury. In the states listed above, apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliolate leaves. When alfalfa stand is uneven and conditions favor leaf burn, unacceptable crop injury may occur to alfalfa in the 2 trifoliolate or smaller stage of growth. Clethodim 2EC plus bromoxynil applications made when temperatures are expected to exceed 70°F at (and 3 days following) application can result in unacceptable crop injury. Crop leaf burn can occur following Clethodim 2EC plus bromoxynil application. Warm, humid conditions may enhance leaf burn. New crop growth will not be affected.

⁷ **RESTRICTION: DO NOT** apply when alfalfa is under moisture, temperature, insect or disease stress or has been stressed by other pesticide carryover or application.

CANOLA

[including Rapeseed Subgroup 20A except flax seed, mustard seed and sesame seed]

Table 2. REDUCED RATE CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR CANOLA

(Refer to the tables above for specific grasses and growth stages.)

PRODUCT	APPLICATION RATES/ACRE ¹		AMMONIUM SULFATE	
	ANNUAL GRASSES ¹	PERENNIAL GRASSES	GROUND	AIR
	CLETHODIM 2EC ² + Glufosinate ³	4 to 5 fl. oz. (0.06-0.08 lb a.i.) + Refer to Glufosinate label	-	3.0 lbs.

¹ Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES** table.

² **DO NOT** apply Clethodim 2EC tank mix during or after bolting or flowering or crop injury may occur.

³ For use only on LibertyLink® canola.

COTTON

Table 3. CLETHODIM 2EC TANK MIXED WITH LACTOFEN AND MSMA APPLIED POST DIRECTED TO COTTON

PRODUCT ¹	APPLICATION RATE/ACRE ²		CROP OIL CONCENTRATE ³ V/V	COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	
CLETHODIM 2EC ⁴ + Lactofen + MSMA (4.0 lbs./gal.) or MSMA (6.6 lbs./gal.)	6 to 8 fl. oz. (0.094-0.125 lb a.i.)	8 to 16 fl. oz. (0.1-0.125 lb a.i.)	1%	Reduce broadcast rate in proportion to the band area actually treated.
	See lactofen label for rates to control broadleaf weeds and height limitations for cotton. Refer to the Clethodim 2EC label for weed height and species controlled.			
	See MSMA label for rates to control broadleaf weeds and height limitations for cotton. Refer to the Clethodim 2EC label for weed height and species controlled.			

¹Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

²If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

³Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

⁴If at the time of application, grass height is so tall that post-directed applications cannot get good coverage over the top of the grassy weeds then poor control may result and a second (non-post directed) application of Clethodim 2EC may be necessary.

COTTON (continued)

Table 4. CLETHODIM 2EC TANK MIXED WITH BROMOXYNIL TO CONTROL EMERGED WEEDS IN BXN COTTON AS A BROADCAST APPLICATION

PRODUCT ¹	APPLICATION RATE/ACRE ²	CROP OIL CONCENTRATE ³	COMMENTS ⁷
	ANNUAL GRASSES		
CLETHODIM 2EC + Bromoxynil ^{4,5,6}	8 to 16 fl. oz. (0.125-0.25 lb a.i.) See bromoxynil label for rates to control broadleaf weeds and height limitations for cotton.	1 qt.	See charts for grasses controlled.

¹ Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage.

² If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC at the specified rate with the appropriate amount of crop oil concentrate in a non-bromoxynil tank mix.

³ Always add a crop oil concentrate at 1 qt./A by ground in the finished spray volume.

⁴ Applications of bromoxynil can be made only to cotton that has been genetically modified for crop resistance to postemergence over-the-top applications of bromoxynil.

⁵ **DO NOT** apply the Clethodim 2EC plus bromoxynil tank mix within 75 days of harvest.

⁶ **DO NOT** exceed 2 applications of bromoxynil before cotton is 12 inches tall and one application after 12 inches tall.

⁷ Use a minimum of 10 gals. of spray solution per acre.

Table 5. CLETHODIM 2EC TANK MIXED WITH GLYPHOSATE TO CONTROL EMERGED GRASSES IN COTTON AS A BROADCAST APPLICATION

PRODUCT	APPLICATION RATE/ACRE ¹		ADJUVANT		COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	Glyphosate formulation with built in adjuvant	Glyphosate formulation without built in adjuvant	
CLETHODIM 2EC + GLYPHOSATE	6 to 8 fl. oz. (0.094-0.125 lb a.i.) See glyphosate label for rates to control broadleaf weeds and height limitations for cotton.	8 to 16 fl. oz. (0.125-0.25 lb a.i.)	Non-ionic surfactant @ 0.125 to 0.25% v/v plus ammonium sulfate @ 8.5 to 17 lbs. per 100 gals. of carrier	Crop oil concentrate @ 1 pt./A plus ammonium sulfate @ 8.5 to 17 lbs. per 100 gals. of carrier	See charts for grasses controlled. Use a minimum of 10 gals. of spray solution per acre.

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC at the specified rate with the appropriate amount of crop oil concentrate.

**BEANS (DRY AND SUCCULENT SHELLED)
SUCCULENT SHELLED PEA AND BEAN SUBGROUP 6B
DRIED SHELLED PEA AND BEAN (EXCEPT SOYBEAN 6C)**

Table 6. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR DRY AND SUCCULENT SHELLED BEANS
(Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
			CLETHODIM 2EC + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to Bentazon label

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

FLAX

Table 7. REDUCED RATE CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR FLAX
(Refer to the tables above for specific grasses and growth stages)

PRODUCT	APPLICATION RATES/ACRE		CROP OIL CONCENTRATE	
	ANNUAL GRASSES ¹	PERENNIAL GRASSES	GROUND	AIR
			CLETHODIM 2EC + Bromoxynil ^{2,3}	4 to 5 fl. oz. (0.06-0.08 lb a.i.) + Refer to Bromoxynil label
CLETHODIM 2EC + MCPA ^{2,3}	4 to 5 fl. oz. (0.06-0.08 lb a.i.) + Refer to MCPA label	-	1 pt.	1 pt.

¹ Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table.

² **DO NOT** apply Clethodim 2EC tank mix during or after the bud stage or to ornamental flax or crop injury may occur.

³ **DO NOT** apply tank mixes if temperatures are expected to exceed 85°F at (or 3 days following) application or crop injury may occur.

SOYBEAN

Table 8. CLETHODIM 2EC TANK MIXES³ TO CONTROL ANNUAL GRASSES WHEN USED AS A BURNDOWN IN NO-TILL SOYBEAN.

PRODUCT	PRODUCT RATE/ACRE ¹	GRASS HEIGHT (inches)	CROP OIL CONCENTRATE/ACRE ²	28%N OR 32%N QTS./A OR 2.5 to 4.0 LBS. AMS
CLETHODIM 2EC + 2,4-D ester* ³	3 fl. oz. (0.04 lb a.i.)	Foxtail 1 to 3 Fall Panicum 1 to 3	1 qt.	1 to 2 qts. Or 2.5 to 4.0 lbs. AMS
	4 fl. oz. (0.06 lb a.i.)	Foxtail 1 to 4 Fall Panicum 1 to 4	1 qt.	1 to 2 qts. Or 2.5 to 4.0 lbs. AMS
	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + 0.5 lb. ai	(See Grass Chart for grasses claimed.)	1 qt.	1 to 2 qts. Or 2.5 to 4.0 lbs. AMS

* 2-4-D ester must not be used where drift sensitive crops may be grown.

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Always use a crop oil concentrate at the listed rate in the finished spray volume.

³ The following products can be tank mixed with Clethodim 2EC plus 2, 4-D ester: Flumioxazin, sulfentrazone, metribuzin, S-metolachlor, pendimethalin, and chlorimuron-ethyl.

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC + Lactofen COBRA	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the lactofen label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the lactofen label for specific application rates.	0.5 to 1%	1%
CLETHODIM 2EC + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Bentazon label for specific application rates.	10 to 16 fl. oz. (0.15-0.25 lb a.i.) + Refer to the Bentazon label for specific application rates.	1%	1%
CLETHODIM 2EC + Glyphosate (For use on Roundup Ready soybean only)	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Glyphosate label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Glyphosate label for specific application rates.	0.5 to 1% ⁴	1% ⁴

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
 (Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC + Acifluorfen	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Acifluorfen label for specific application rates.	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Acifluorfen label for specific application rates.	0.5 to 1%	1%
CLETHODIM 2EC + Fomesafen ⁶	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Fomesafen label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Fomesafen label for specific application rates.	1%	1%
CLETHODIM 2EC + Chlorimuron-ethyl	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Chlorimuron-ethyl label for specific application rates.	10 to 18 fl. oz. (0.15-0.28 lb a.i.) + Refer to the Chlorimuron-ethyl label for specific application rates.	1%	1%
CLETHODIM 2EC ⁴ + Imazethapyr	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Imazethapyr label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Imazethapyr label for specific application rates.	1%	1%
CLETHODIM 2EC ⁵ + Lactofen + Chlorimuron-ethyl	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Lactofen and Chlorimuron-ethyl labels for specific application rates.	-	0.5%	1%
CLETHODIM 2EC ⁵ + Lactofen + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Lactofen and Bentazon labels for specific application rates.	-	0.5%	1%

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
 (Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC ⁵ + Lactofen + Imazethapyr	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Lactofen and Imazethapyr labels for specific application rates.	-	0.5%	1%
CLETHODIM 2EC ⁵ + Acifluorfen + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Acifluorfen and Bentazon labels for specific application rates.	-	0.5%	1%
CLETHODIM 2EC ⁵ + Flumiclorac + Imazethapyr	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Flumiclorac and Imazethapyr labels for specific application rates.	-	1%	1%
CLETHODIM 2EC ⁵ + Flumiclorac + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Flumiclorac and Bentazon label for specific application rates.	-	1%	1%
CLETHODIM 2EC ⁵ + Flumiclorac + Chlorimuron-ethyl	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Flumiclorac and Chlorimuron-ethyl label for specific application rates.	-	1%	1%

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
 (Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC ⁵ + Lactofen + Flumiclorac	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Lactofen and Flumiclorac label for specific application rates.	-	0.5%	1%
CLETHODIM 2EC ⁵ + Cloransulam-methyl	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Cloransulam-methyl label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Cloransulam-methyl label for specific application rates.	1%	-
CLETHODIM 2EC ⁵ + Lactofen + Cloransulam-methyl	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Lactofen and Cloransulam-methyl labels for specific application rates.	6 to 8 fl. oz. (0.1-0.125 lb a.i.) + Refer to the Lactofen and Cloransulam-methyl labels for specific application rates.	1%	-
CLETHODIM 2EC ⁵ + Imazamox	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Imazamox label for specific application rates.	-	1%	-
CLETHODIM 2EC ⁵ + Lactofen + Imazamox	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Lactofen and Imazamox labels for specific application rates.	-	1%	-
CLETHODIM 2EC ⁵ + Thifensulfuron-methyl	6 to 8 fl. oz. ⁷ (0.094-0.125 lb a.i.) + Refer to the Thifensulfuron-methyl label for specific application rates.	-	1 qt.	-

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN
(Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC ⁵ + Lactofen + Thifensulfuron-methyl	6 to 8 fl. oz. ⁷ (0.094-0.125 lb a.i.) + Refer to the Lactofen and Thifensulfuron-methyl labels for specific application rates.	-	1 pt.	-
CLETHODIM 2EC ⁵ + Flumiclorac	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Flumiclorac label for specific application rates.	-	1qt.	-
CLETHODIM 2EC + Cloransulam-methyl + Fomesafen ⁵	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Cloransulam-methyl and Fomesafen label for specific application rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Cloransulam-methyl and Fomesafen label for specific application rates.	1%	-

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

⁴ The addition of 2.5 lb. of ammonium sulfate is required when CLETHODIM 2EC is tank mixed with glyphosate. If the glyphosate formulation has a stand alone built in adjuvant, add 0.125% v/v non-ionic surfactant in place of crop oil concentrate for ground application and 1% v/v for aerial application.

⁵ The addition of 1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N, or 32%N) is advised when Clethodim 2EC is tank mixed with imazethapyr, flumiclorac, cloransulam-methyl, thifensulfuron-methyl, imazamox, or lactofen plus imazamox. An equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added in place of liquid fertilizer. Fertilizer adjuvants are to be added in addition to the crop oil concentrate.

⁶ Refer to fomesafen label for geographic and rotational instructions.

⁷ Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES** table.

SOYBEAN (continued)

Table 10. REDUCED RATE CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (Refer to table for reduced rate use in canola, dry shelled bean & pea, edible podded legume vegetables, flax, mustard seed, soybean, succulent bean & pea and sugar beet specifications for small annual grasses specific grasses and growth stages)(Reduced rate directions not for use in California)

PRODUCT	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ^{3,4} (V/V)	
	ANNUAL GRASSES ²	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC + Cloransulam-methyl	4 to 8 fl. oz. (0.06-0.125 lb a.i.) + Refer to the Cloransulam-methyl label for specific application rates.	-	1%	1%
CLETHODIM 2EC + Imazethapyr	4 to 6 fl. oz. (0.06-0.094 lb a.i.) + Refer to the Imazethapyr label for specific application rates.	-	1%	1%

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Annual grasses and sizes controlled with these tank mixtures are those that are identified in the **DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES** table.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

⁴ The addition of 1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N, or 32%N) is required when Clethodim 2EC is tank mixed at reduced rates. An equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added in place of liquid fertilizer. Fertilizer adjuvants are to be added in addition to the crop oil concentrate.

PEANUT (INCLUDING PERENNIAL)

Table 11. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR PEANUT (INCLUDING PERENNIAL)

(Refer to the tables above for specific grasses and growth stages.)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES ²	PERENNIAL GRASSES	GROUND	AIR
	CLETHODIM 2EC + Bentazon	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Bentazon label for specific application rates	-	1%
CLETHODIM 2EC + Acifluorfen	8 to 10 fl. oz. (0.125-0.15 lb a.i.) + Refer to the Acifluorfen label for specific application rates	-	1%	1%

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

DIRECTIONS FOR GRASS SUPPRESSION FOR HARVEST EFFICIENCY IN PEANUT (INCLUDING PERENNIAL) WITH CLETHODIM 2EC			
GRASS SPECIES	WEED STAGE	RATE FL. OZ. / ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts "DIRECTIONS FOR ANNUAL GRASSES" & "DIRECTIONS FOR PERENNIAL GRASSES"	Up to and including grasses in the seed head stage.	16 (0.25 lb a.i.)	32 (0.5 lb a.i.)
RESTRICTION: DO NOT apply as part of a tank mix when applying Clethodim 2EC for grass suppression.			
Add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.			

SUGAR BEET

Table 12. CLETHODIM 2EC TANK MIXED WITH CLOPYRALID APPLIED TO SUGAR BEET
(Refer to the tables above for specific grasses and growth stages)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
	CLETHODIM 2EC	6 to 8 fl. oz. (0.094-0.125 lb a.i.)		
+ Clopyralid	See Clopyralid label for rates.			

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

² Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

Table 13. CLETHODIM 2EC TANK MIXED WITH DESMEDIPHAM OR DESMEDIPHAM AND PHENMEDIPHAM APPLIED TO SUGAR BEET

PRODUCT ¹	WEEDS CONTROLLED		WEED HEIGHT (inches)	APPLICATION RATE/ACRE ²
	COMMON NAME	SCIENTIFIC NAME		
CLETHODIM 2EC ³ + Desmedipham Or Desmidipham + Phenmedipham	Barnyardgrass	<i>Echinochloa crus-galli</i>	1 to 3	8 fl. oz. (0.125 lb a.i.)
	Foxtail	<i>Setaria spp.</i>	1 to 3	
Foxtail Millet	<i>Setaria italic</i>	1 to 3		
Wild Oat	<i>Avena fatua</i>	1 to 3		
Wild Proso Millet	<i>Panicum miliaceum</i>	1 to 3		
			See Desmedipham or Desmedipham + Phenmedipham label for rate to control broadleaf weeds. No additives are advised the tank mix.	

¹ Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

² **DO NOT** use crop oil concentrate. No additives are advised in the tank mix. If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate directions.

³ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC at full label rate with appropriate rate of crop oil concentrate.

Table 14. CLETHODIM 2EC PLUS DESMEDIPHAM OR DESMEDIPHAM AND PHENMEDIPHAM TANK MIX FOR THREE SEQUENTIAL APPLICATIONS FOR ANNUAL GRASS CONTROL (MICRO-RATE APPLICATION)

PRODUCT	APPLICATION RATES/ACRE ¹		METHYLATED SEED OIL ² (V/V)	
	ANNUAL GRASSES	GRASSES CONTROLLED (inches)	GROUND	AIR
CLETHODIM 2EC + Desmedipham Or Desmedipham + Phenmedipham	2 to 3 fl. oz. (0.03-0.04 lb a.i.) + Refer to the Desmedipham or Desmidipham + Phenmedipham label for specific application rates ³	Green Foxtail (1-2) Yellow Foxtail (1-2) Barnyardgrass (1-2) Wild Oat (1-2) Volunteer Cereals (1-2)	1.5%	1.5%

¹ Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not advised in these situations.

² Always use a methylated seed oil at the listed rate (but not less than 1 pt./A) in the finished spray volume.

³ Use 8 fl. oz./A (0.125 lb a.i./A) rate when sugar beet are in the cotyledon to 4 leaf stage. Rate can be increased up to 12 fl. oz./A (0.18 lb a.i.) when the smallest sugar beet plants in the field are in the 4 true leaf stage or larger.

Directions for Use for Micro-Rate Applications to Sugar Beet

Multiple micro-rate applications of Clethodim 2EC in tank mixtures with reduced rates of Desmedipham or Desmedipham and Phenmedipham and methylated seed oils may be applied by air or ground equipment to sugar beet to control early germinating annual grasses listed above. The rate of Desmedipham or Desmidipham and Phenmedipham must not exceed 0.12 lb. ai./A (broadcast application) when in combination with these spray adjuvants. Note that the maximum rate allowed varies depending on crop growth stage. The use of wetting agents or spray adjuvants with conventional rates (0.73 to 1.22 lb. ai./A) or multiple low rate (0.24 to 0.73 lb. ai./A) applications of Desmedipham is prohibited on the Desmedipham or Desmedipham and Phenmedipham master label. Favorable climatic conditions (good conditions for plant growth and development) are essential for adequate wee control. All use precautions and restrictions on the Desmedipham or Desmedipham and Phenmedipham master labels must be followed.

Directions for Using Micro-Rate Multiple Applications of Clethodim 2EC Tank Mixes

Apply Clethodim 2EC in broadcast applications only at a rate of 2 to 3 fl. oz./A (0.03-0.04 lb a.i./A) in tank mixture with either Desmedipham or Desmedipham and Phenmedipham following the directions for use on the tank mix partner label. A minimum of three sequential applications of 2 fl. oz./A (0.03 lb a.i./A) or a minimum of 2 sequential applications of 3 fl. oz./A (0.04 lb a.i./A) must be utilized for Clethodim 2EC tank mixtures. A minimum of 3 sequential applications of Desmedipham or Desmedipham and Phenmedipham must be used. Accurate timing is essential; make initial application immediately after weeds emerge, and make repeat applications on 5 to 7 day intervals. If weed control is not adequate due to climatic conditions, spray coverage or other factors, return to conventional application rates of

Clethodim 2EC (6 to 8 fl. oz./A) and add rates of Desmedipham or Desmedipham and Phenmedipham as directed on their label. When using conventional rates of Desmidipham or Desmedipham and Phenmedipham in tank mixtures with Clethodim 2EC, a spray adjuvant is not advised.

**Use Precautions for Micro-Rate Applications:
(See Desmidipham or Desmedipham and Phenmedipham labels for further use precautions.)**

Not all weeds will be adequately controlled, even with favorable climatic conditions. Conventional rates of Clethodim 2EC, Desmedipham or Desmedipham and Phenmedipham and/or hand labor may be required if multiple micro-rate applications do not adequately control weeds. Plugging of spray nozzles may be encountered due to the potential for formation of a precipitate in the spray solution that is often associated with micro-rate applications. Helena Agri-Enterprises, LLC to the extent consistent with applicable law will not be responsible for any nozzle plugging that may occur with the use of multiple micro-rate applications. Methylated seed oils must not be added if the Desmedipham or Desmedipham and Phenmedipham rate exceeds 0.12 lb. ai/A broadcast, as the addition of methylated seed oils could increase the possibility of crop injury at dosage rates greater than 0.12 lb. ai/A.

GROUND APPLICATION

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 10 gals. and a maximum of 20 gals. of spray solution per acre. Spray pressures must reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. **DO NOT** use flood nozzles.

AERIAL APPLICATION

Use of sufficient spray volumes is essential to ensure complete coverage. Use a minimum of 5 gals. and a maximum of 15 gals. of spray solution per acre.

Table 15. TANK MIX APPLICATION OF CLETHODIM 2EC AND FUNGICIDES FOR CONTROL OF GRASS WEEDS AND DISEASES IN SUGAR BEET

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ³ (V/V)
	ANNUAL GRASSES	PERENNIAL GRASSES	
CLETHODIM 2EC + Tetraconazole	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to the Tetraconazole label for specific application rates	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to the Tetraconazole label for specific application rates	1%

¹ If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix fungicide) according to the appropriate size and rate directions.

² Refer to Clethodim 2EC and fungicide label for rates and weeds and diseases controlled.

³ Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

Table 16. TANK MIX APPLICATION OF CLETHODIM 2EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, PEPPERMINT AND SPEARMINT TOPS, PEANUT (INCLUDING PERENNIAL), SOYBEAN AND SUNFLOWER

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE (V/V) ³	CROP					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa ⁴	Cotton	Peppermint and Spearmint Tops ^{4,5}	Peanut	Soybean	Sunflower
CLETHODIM 2EC + Acephate	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to Acephate label for use rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to Acephate label for use rates.	1%		X	X	X	X	
CLETHODIM 2EC + Fenpropathrin	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to Fenpropathrin label for use rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to Fenpropathrin label for use rates.	1%		X		X		
CLETHODIM 2EC + Esfenvalerate	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to Esfenvalerate label for use rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to Esfenvalerate label for use rates.	1%						X
CLETHODIM 2EC + Lamda-Cyhalothrin	6 to 8 fl. oz. (0.094-0.125 lb a.i.) + Refer to Lamda-Cyhalothrin label for use rates.	8 to 16 fl. oz. (0.125-0.25 lb a.i.) + Refer to Lamda-Cyhalothrin label for use rates.	1%						X
CLETHODIM 2EC + Lambda-Cyhalothrin	10 to 16 fl. oz. ⁷ (0.15-0.25 lb a.i.) + Refer to Lambda-Cyhalothrin label for use rates	10 to 16 fl. oz. (0.15-0.25 lb a.i.) + Refer to Lambda-Cyhalothrin label for use rates.	1%	X					
CLETHODIM 2EC + Beta-Cyfluthrin	10 to 16 fl. oz. ⁷ (0.15-0.25 lb a.i.) + Refer to Beta-Cyfluthrin label for use rates	10 to 16 fl. oz. (0.15-0.25 lb a.i.) + Refer to Beta-Cyfluthrin label for use rates.	1%	X					

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE (V/V) ³	CROP					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa ⁴	Cotton	Peppermint and Spearmint Tops ^{4,5}	Peanut	Soybean	Sunflower
CLETHODIM 2EC + DIMETHOATE®	10 to 16 fl. oz. ⁷ (0.15-0.25 lb a.i.) + Refer to DIMETHOATE label for use rates.	10 to 16 fl. oz. (0.15-0.25 lb a.i.) + Refer to DIMETHOATE label for use rates.	1%	X					

Table 16. TANK APPLICATION OF CLETHODIM 2EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, PEPPERMINT AND SPEARMINT TOPS , PEANUTS (INCLUDING PERENNIAL), SOYBEAN AND SUNFLOWER (continued)

PRODUCT ²	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE (V/V) ³	CROP					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa ⁴	Cotton	Peppermint and Spearmint Tops ^{4,5}	Peanut	Soybean	Sunflower
CLETHODIM 2EC + Permethrin	10 to 16 fl. oz. ⁷ (0.15-0.25 lb a.i.) + Refer to Permethrin label for use rates.	10 to 16 fl. oz. (0.15-0.25 lb a.i.) + Refer to Permethrin label for use rates.	1%	X					

¹If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Clethodim 2EC alone (without a tank mix fungicide) according to the appropriate size and rate directions.

²Refer to Clethodim 2EC and insecticide label for rates and weeds and insecticides controlled.

³Always use a crop oil concentrate at the listed rate (but not less than 1 pt./A) in the finished spray volume.

⁴Certain insecticides may cause temporary phytotoxic symptoms on alfalfa and peppermint and spearmint tops foliage. Refer to the insecticide label for further information. It is suggested that prior to using any of these insecticide/herbicide tank mixtures, that a small area of the field be treated first and observations for crop injury be made prior to treating the whole field.

⁵The Clethodim 2EC rate is 6 to 8 fl. oz./A (0.1 – 0.125 lb a.i./A) for annual grass control in baby peppermint and spearmint tops, minimum of 8 fl. oz./A (0.125 lb a.i./A) for annual grass control in established peppermint and spearmint tops and 8 to 16 fl. oz./A (0.125- 0.25 lb a.i./A) or perennial grass control. Add crop oil concentrate at the rate of 1.0 to 2.0 pts./A.

⁶Insecticide tank mix use with acephate in soybean is permitted only in a state having an approved Section 24(c) registration for acephate use in soybean.

⁷The Clethodim 2EC rate is 6 to 8 fl. oz./A (0.1-0.125 lb a.i./A) for annual grass control in seedling alfalfa.

Table 17. DIRECTIONS FOR ROUNDUP READY VOLUNTEER CORN CONTROL IN ROUNDUP READY SOYBEAN WITH CLETHODIM 2EC HERBICIDE TANK MIX

Roundup Ready Volunteer Corn Height (inches)	Clethodim 2EC Rate fl. oz./A (lb a.i./A)	Glyphosate ¹ rate for Formulations with built in Adjuvant	Adjuvant
<12	4 (0.06)	1.0 to 2.0 lb. ai./A	Non-ionic surfactant @ 0.125 to 0.25% v/v plus Ammonium sulfate @ 8.5 to 17 lbs. per 100 gals./ of carrier
12 to 18	5 (0.08)		
18 to 24	6 (0.10)		

Roundup Ready Volunteer Corn Height (inches)	Clethodim 2EC Rate fl. oz./A (lb a.i./A)	Glyphosate ¹ rate for Formulations without built in adjuvant	Adjuvant
<12	4 (0.06)	Up to 2.0 lb. ai./A	Crop oil concentrate @ 1 pt./A plus Ammonium sulfate @ 8.5 to 17 lbs. per 100 gals./ of carrier
12 to 18	5 (0.08)		
18 to 24	6 (0.10)		

¹Glyphosate formulation must be labeled for use on Roundup Ready soybean.

THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED.

- Apply only to actively growing grass and broadleaf weeds at specified height or growth stage listed on each label.
- Apply under favorable soil moisture and humidity which exist a few days after rainfall or within seven days after irrigation.
- Tank mix applications may sometimes result in reduced grass control. If regrowth occurs, or an additional flush of new grass emerges, make a second application of Clethodim 2EC, as specified in the respective size and rate tables.
- This tank mix may be applied postemergence to ROUNDUP READY soybean up through the full flowering stage.
- Avoid contact with foliage, green stems, or fruit crops, or any desirable plants and trees, other than soybean with the ROUNDUP READY gene as severe injury or destruction will result.

RESTRICTIONS:

- **DO NOT** tank mix Clethodim 2EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.
- **DO NOT** apply less than 60 days before harvest.
- **DO NOT** allow the Clethodim 2EC plus glyphosate to mist, drip, drift or splash onto desirable vegetation as minute quantities of the tank mix can cause severe damage or destruction to the crops, plants or other areas on which treatment was not intended. The likelihood of injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions that allow spray drift to occur including combinations of spray pressure and nozzle type that will result in fine particles (mist) that are likely to drift.

FALLOW LAND

DIRECTIONS FOR USE

Clethodim 2EC may be used to control annual and perennial grasses in land that has been left fallow the previous year and other non-producing agricultural areas. Apply Clethodim 2EC at 6 to 8 fl. oz./A (0.1-0.125 lb a.i./A) for annual grasses and 8 to 16 fl. oz./A (0.125-0.25 lb a.i./A) for perennial grasses. When both grass and broadleaf weeds are the target pest, Clethodim 2EC may be tank mixed with 2,4-D ester or bentazon for broad spectrum control. When both annual and perennial grasses occur in the same field, use a minimum of 8 fl. oz./A (0.125 lb a.i./A) Clethodim 2EC rate.

PRODUCT INFORMATION:

- Use a minimum spray volume of 5 gals./A for aerial applications and 15 gals./A for ground applications.
- Apply only to actively growing grasses when the first grass reaches the specified weed height as specified by the Directions for Annual and Perennial Grasses section of this label.
- Annual grasses that emerge after the Clethodim 2EC application will not be controlled, and a second application may be necessary.
- The control of perennial grasses may require more than 1 application in non-tilled areas.
- **RESTRICTIONS: DO NOT** plant any crop for 30 days after application unless clethodim is registered for use in that crop.
- **DO NOT** apply to grasses that have tillered, formed seedheads or exceeded specified growth stage.
- **DO NOT** use flood jet nozzles.
- **DO NOT** apply to drought stressed grasses.
- **DO NOT** mow area for 2 weeks prior to or after the Clethodim 2EC application.

Table 18. CLETHODIM 2EC IN TANK MIXES TO CONTROL ANNUAL AND PERENNIAL GRASSES IN FALLOW LAND

PRODUCT	APPLICATION RATES/ACRE ¹		CROP OIL CONCENTRATE ² (V/V) Ground/Air
	ANNUAL GRASSES	PERENNIAL GRASSES	
CLETHODIM 2EC + 2,4-D ester or Dicamba	6 to 8 fl. oz. + See 2,4-D ester or dicamba label for rates	8 to 16 fl. oz. (0.125-0.25 lb a.i.)	1%

¹Refer to Clethodim 2EC label for weed height and species control. Review dicamba and 2,4-D labels for crop restrictions, use rates and weeds controlled.

²Always use a crop oil concentrate or methylated seed oil containing at least 15% emulsifier at the listed rate (but not less than 1 pt./A) in the finished spray volume.

DIRECTIONS FOR GRASS SUPPRESSION IN NON-CROP AREAS WITH CLETHODIM 2EC			
GRASS SPECIES	WEED STAGE	RATE FL. OZ./ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts	Up to and including grasses in the seed head stage.	12 (0.18 lb a.i.)	16 (0.25 lb a.i.)

RESTRICTION:

DO NOT apply as part of a tank mix when applying Clethodim 2EC for grass suppression. Add a crop oil concentrate at 1 qt./A by ground to the finished spray volume.

Table 19. CLETHODIM 2EC FOR THE CONTROL AND/OR SUPPRESSION OF TALL FESCUE IN NATIVE PRAIRIE WARM-SEASON GRASS RESTORATION PROJECTS

PRODUCT	PRODUCT RATES	GRASS WEEDS CONTROLLED/SUPPRESSED		WEED STAGES
		Common Name	Scientific Name	
CLETHODIM 2EC	10 to 12 fl. oz./A (0.15-0.18 lb a.i./A)	Tall Fescue	<i>Festuca arundinacea</i>	4 to 6 inches tall (40 to 60% green-up)
Adjuvant: Clethodim 2EC must be applied with crop oil concentrate at 1 qt./A, plus a spray grade ammonium sulfate at 2.5 to 4 lbs./A. Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add Clethodim 2EC, then add crop oil concentrate.				

SPECIAL APPLICATION INSTRUCTIONS

Burn or mow fields a minimum of 3 weeks prior to application to remove excess crop residue. Apply in the spring, at 40 to 60% tall fescue green-up, prior to emergence of warm-season grasses. Apply in a minimum of 15 to 20 gals. of water per acre at a spray pressure of 40 to 60 PSI at the nozzle. Apply using flat fan or hollow cone nozzles. Apply only to fields that have warm-season grasses established for 2 years. Applications of Clethodim 2EC to emerged warm-season grasses may cause injury.

RESTRICTIONS:

- **DO NOT** graze treated fields or feed treated forage and/or hay to livestock.
- **DO NOT** plant any crop for 30 days after application, unless clethodim is registered for use in that crop.
- **DO NOT** mow area for 2 weeks after the Clethodim 2EC application.
- **DO NOT** use flood jet nozzles.
- **DO NOT** apply to warm-season grasses grown for seed.

NOTE: Clethodim 2EC applications are most effective if applied when average nighttime temperatures are consistently greater than or equal to 47°F.

Table 20. CLETHODIM 2EC FOR THE SUPPRESSION OF TALL FESCUE SEED-HEADS IN NON-PRODUCING AGRICULTURAL AREAS

PRODUCT	PRODUCT RATE	SUPPRESSION	APPLICATION TIMING
CLETHODIM 2EC	1 ½ to 2 fl. oz./A (0.02-0.03 lb/A)	Tall Fescue Seed-Heads (<i>Festuca arundinacea</i>)	(50 to 90% Tall Fescue green-up)
Adjuvant: Clethodim 2EC must be applied with crop oil concentrate at 1 qt./A, plus a spray grade ammonium sulfate at 2.5 to 4 lbs./A. Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add Clethodim 2EC, then add crop oil concentrate.			

SPECIAL APPLICATION INSTRUCTIONS

Apply at 50 to 90% tall fescue green-up.

Use the higher Clethodim 2EC rate if less tall fescue green matter is present.

Apply in a minimum of 15 to 20 gals. of water per acre at a spray pressure of 40 to 60 PSI at the nozzle. Apply using flat fan or hollow cone nozzles. 2,4-D ester may be added to this tank mix for broadleaf control (see 2,4-D ester label for weeds controlled).

RESTRICTIONS:

- **DO NOT** graze treated fields or feed treated forage and/or hay to livestock.
- **DO NOT** plant any crop for 30 days after application, unless clethodim is registered for use in that crop.
- **DO NOT** mow area for two weeks after the Clethodim 2EC application. **DO NOT** use flood nozzles.

DIRECTIONS FOR USE IN ORNAMENTALS

For ornamental plant uses, Clethodim 2EC can be used to control labeled grass weeds in greenhouses, lathhouses, shadehouses, and around outdoor ornamentals, including nurseries, parks, roadside plantings, and structure landscapes.

IMPORTANT

Clethodim 2EC successfully controls weeds in newly transplanted and established non-grassy ornamentals. Plant safety to Clethodim 2EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is suggested that the user determine if herbicide can be used safely on a few plants prior to widespread application. Neither the seller nor the manufacturer of Clethodim 2EC have investigated the safety factor to ornamental plants not tested on the label.

The following plants have shown a resistance for Clethodim 2EC applications:

ORNAMENTAL TREES

COMMON NAME	SCIENTIFIC NAME
Alder, Red	<i>Alnus rubra</i>
Ash	<i>Fraxinus spp.</i>
Basswood	<i>Tilia spp.</i>
Birch, European White	<i>Betula pendula</i>
Birch, River	<i>Betula nigra</i>
Birch, White	<i>Betula papyrifera</i>
Crabapple, Flowering	<i>Malus halliana</i>
Dogwood, Flowering	<i>Cornus florida</i>
Golden Chain Tree	<i>Laburnum anagyroides</i>
Maples	<i>Acer spp.</i>
Mulberry, White	<i>Morus alba</i>
Oaks	<i>Quercus spp.</i>
Olive, Wild	<i>Elaeagnus angustifolia</i>
Redbud, Eastern	<i>Cercis Canadensis</i>
Sweet Gum, American	<i>Liquidambar styraciflua</i>

GROUND COVERS

COMMON NAME	SCIENTIFIC NAME
Bugleweed, Carpet	<i>Ajuga reptans</i>
Ivy, English	<i>Hedera helix</i>
Japanese Spurge	<i>Pachysandra terminalis</i>
Lilyturf	<i>Liriope muscari</i>
Moneywort	<i>Lysimachia nummularia</i>
Mondo Grass, White	<i>Ophiopogon jaburan</i>
Mondo Grass, Dwarf	<i>Ophiopogon japonicas</i>
Periwinkle, Lesser	<i>Vinca minor</i>

GARDEN FLOWERS AND PLANTS

COMMON NAME	SCIENTIFIC NAME
Ageratum	<i>Ageratum</i> spp.
Alyssum*, Sweet	<i>Lobular maritime</i>
Asparagus Fern	<i>Asparagus setaceous</i>
Bleeding Heart	<i>Decent spectabilis</i>
Cast Iron Plant	<i>Aspidistra elatior</i>
Chrysanthemum	<i>Chrysanthemum</i> spp.
Cinquefoil	<i>Potentilla</i> spp.
Coleus	<i>Coleus</i> spp.
Coralbells	<i>Heuchera sanguine</i>
Cranesbill	<i>Geranium</i> spp.
Dahlia	<i>Dahlia</i> spp.
Daisy, Trailing African	<i>Osteospermum fruticosum</i>
Daylily	<i>Hemerocallis</i> spp.
Dusty Miller	<i>Senecio cineraria</i>
Euonymus	<i>Euonymus</i> spp.
Gazania	<i>Gazania</i> spp.
Geranium, House	<i>Pelargonium hortorum</i>
Heather, False	<i>Cuphea hyssopifolia</i>
Hosta	<i>Hosta fortunei</i>
Iris	<i>Iris</i> spp.
Jasmine Tobacco	<i>Nicotiana alata</i>
Loosestrife	<i>Lythrum salicaria</i>
Marigold	<i>Tagetes</i> spp.
Partridgeberry	<i>Mitchella repens</i>
Petunia*	<i>Petunia hybrida</i>
Phlox	<i>Phlox</i> spp.
Pinks	<i>Dianthus</i> spp.
Portulaca	<i>Portulaca grandiflora</i>
Salvia	<i>Salvia</i> spp.
Saxifrage	<i>Saxifrage</i> spp.
Sedum	<i>Sedum</i> spp.
Selloum	<i>Philodendron selloum</i>
Snapdragon*	<i>Antirrhinum majus</i>
Sweet Flag	<i>Acorus gramineus</i>
Tickseed	<i>Coreopsis grandiflora</i>
Touch-Me-Not	<i>Impatiens</i> spp.
Verbena	<i>Verbena</i> spp.

COMMON NAME	SCIENTIFIC NAME
Violet	<i>Viola</i> spp.
Yarrow, Common	<i>Achillea millefolium</i>
Zinnia	<i>Zinnia elegans</i>

*Slight foliage or flower speckling has been observed on these species.

SHRUBS

COMMON NAME	SCIENTIFIC NAME
Abelia	<i>Abelia</i> spp.
Anise, Purple	<i>Illicium floridanum</i>
Aucuba	<i>Aucuba</i> spp.
Azalea*	<i>Rhododendron</i> spp.
Bamboo	<i>Bambusa</i> spp.
Barberry, Japanese	<i>Berberis thunbergii</i>
Barberry, Magellan	<i>Berberis buxifolia</i>
Bayberry	<i>Myrica pensylvanica</i>
Bottlebrush	<i>Callistemon citrinus</i>
Boxwood, Common	<i>Buxus sempervirens</i>
Camellia, Common	<i>Camellia japonica</i>
Candytuft	<i>Iberis sempervirens</i>
Cleyera	<i>Cleyera japonica</i>
Coralberry	<i>Ardisia crenata</i>
Crape Myrtle	<i>Lagerstroemia indica</i>
Coyote Brush	<i>Baccharis pilularis</i>
Fig, Creeping	<i>Ficus pumila</i>
Gardenia	<i>Gardenia</i> spp.
Holly	<i>Ilex</i> spp.
Honeysuckle	<i>Lonicera</i> spp.
Indian Hawthorn	<i>Raphiolepis indica</i>
Jasmine	<i>Jasminum</i> spp.
Jasmine, Asiatic	<i>Trachelospermum asiaticum</i>
Jasmine, Star	<i>Trachelospermum jasminoides</i>
Juniper	<i>Juniperus</i> spp.
Lantana	<i>Lantana</i> spp.
Nandina* Bamboo, Heavenly	<i>Nandinia domestica</i>
Oleander, Common	<i>Nerium oleander</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Photinia	<i>Photinia</i> spp.
Pittosporum	<i>Pittosporum</i> spp.
Podocarpus	<i>Podocarpus</i> spp.
Privet	<i>Ligustrum</i> spp.
Pyracantha	<i>Pyracantha</i> spp.
Rhododendron	<i>Rhododendron</i> spp.
Rose	<i>Spiraea bumalda</i>
Sweet Olive	<i>Osmanthus fragrans</i>
Viburnum	<i>Viburnum tinus</i>
Wisteria	<i>Wisteria</i> spp.
Yellow Sage/Shrub Verbena	<i>Lantana camara</i>

*Slight foliage or flower speckling has been observed on these species.

DIRECTIONS FOR ANNUAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at labeled weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at a maximum height.

GRASS SPECIES	SCIENTIFIC NAME	WEED* HEIGHT (inches)	RATE FL. OZ./ACRE ¹ (lb a.i./A)	HIGH RATE ² (Lb a.i)
Barnyardgrass	<i>Echinochloa crus-galli</i>	2 to 8	8 (0.125)	16 (0.25)
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>	2 to 6	8	16
Brome				
California	<i>Bromus carinatus</i>	2 to 6	8	16
Cheat	<i>Bromus secalinus</i>	2 to 6	8	16
Downy	<i>Bromus tectorum</i>	2 to 6	8	16
Rippgut	<i>Bromus diandrus</i>	2 to 6	8	16
Canarygrass	<i>Phalaris canariensis</i>	1 to 4	8	16
Crabgrass				
Hairy	<i>Digitaria adscendens</i>	2 to 6**	8	16
Large	<i>Digitaria sanguinalis</i>	2 to 6**	8	16
Smooth	<i>Digitaria ischaemum</i>	2 to 6**	8	16
Southern	<i>Digitaria ciliaris</i>	2 to 6**	8	16
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	2 to 6**	8	16
Fall Panicum	<i>Panicum dichotomiflorum</i>	2 to 8	8	16
Field Sandbur	<i>Cenchrus incertus</i>	2 to 6	8	16
Foxtail				
Giant	<i>Setaria faberi</i>	2 to 12	8	16
Green	<i>Setaria viridis</i>	2 to 8	8	16
Yellow	<i>Setaria glauca</i>	2 to 8	8	16
Goosegrass	<i>Eleusine indica</i>	2 to 6**	8	16
Itchgrass	<i>Rottboellia cochlin</i>	2 to 6	8	16
Junglerice	<i>Echinochloa colona</i>	2 to 6	8	16
Lovegrass (Stinkgrass)	<i>Eragrostis cilianensis</i>	2 to 6	8	16
Rabbitsfootgrass	<i>Polypogon monspeliensis</i>	1 to 4	8	16
Red Rice	<i>Oryza sativa</i>	1 to 3	8	16
Ryegrass				
Hardy	<i>Lolium remotum</i>	2 to 6	8	16
Italian	<i>Lolium multiflorum</i>	2 to 6	8	16
Seedling Johnsongrass	<i>Sorghum halepense</i>	4 to 10	8	16
Shattercane	<i>Sorghum bicolor</i>	6 to 18	8	16
Southwestern Cupgrass	<i>Eriochloa gracilis</i>	2 to 6	8	16
Sprangletop				
Amazon	<i>Leptochloa panicoides</i>	2 to 6	8	16
Bearded	<i>Leptochloa fascicularis</i>	2 to 6	8	16
Mexican	<i>Leptochloa uninervia</i>	2 to 6	8	16
Red	<i>Leptochloa filiformis</i>	2 to 6	8	16
Texas Panicum	<i>Panicum texanum</i>	2 to 6	8	16
Volunteer Cereals				
Barley	<i>Hordeum vulgare</i>	2 to 6	8	16
Oats	<i>Avena sativa</i>	2 to 6	8	16
Rye	<i>Secale cereale</i>	2 to 6	8	16
Wheat	<i>Triticum aestivum</i>	2 to 6	8	16
Volunteer Corn	<i>Zea mays</i>	4 to 12	6 (0.1)	8 (0.125)

GRASS SPECIES	SCIENTIFIC NAME	WEED* HEIGHT (inches)	RATE FL. OZ./ACRE ¹ (lb a.i./A)	HIGH RATE ² (Lb a.i)
Volunteer Corn	<i>Zea mays</i>	12 to 24	8	16
Volunteer Grain Sorghum	<i>Sorghum bicolor</i>	8 to 12	8	16
Wild Oats	<i>Avena fatua</i>	2 to 6	8	16
Wild Proso Millet	<i>Panicum miliaceum</i>	2 to 10	8	16
Witchgrass	<i>Panicum capillare</i>	2 to 8	8	16
Woolly Cupgrass	<i>Eriochloa villosa</i>	2 to 8	8	16

* Generally occurs between 3-leaf stage and tillering.

**Length of lateral growth.

¹8 fl. oz./A = approximately 0.2 fl. oz./1000 sq. ft.

²16 fl. oz./A = approximately 0.4 fl. oz./1000 sq. ft.

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25%v/v).

**DIRECTIONS FOR ANNUAL BLUEGRASS CONTROL WITH
CLETHODIM 2EC IN ORNAMENTALS**

GRASS SPECIES	WEED STAGE	RATE FL. OZ./ACRE (lb a.i./A)	HIGH RATE (lb a.i.)
Annual Bluegrass (<i>Poa annua</i>)	to 4-leaf	6 (0.1)	16 (0.25)

Apply under favorable soil moisture and humidity that exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s).

Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass.

Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v).

DIRECTIONS FOR PERENNIAL GRASSES

- Apply only to actively growing grasses at labeled weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at a maximum height.

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL. OZ./ ACRE ¹ (lb a.i./A)	HIGH RATE ² (lb a.i./A)
<i>Bermudagrass (Cynodon dactylon)</i>			
First Application	3 (or up to 6" runners)	8 (0.125)	16 (0.25)
Repeat Application(s) (if regrowth occurs)	3 (or up to 6" runners)	8	16
<i>Quackgrass (Elytrigia repens)</i>			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
<i>Rhizome Johnsongrass (Sorghum halepense)</i>			
First Application	12 to 24	8	16
Repeat Application(s) (if regrowth occurs)	6 to 18	6	8
<i>Wirestem Muhly (Muhlenbergia frondosa)</i>			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16

¹8 fl. oz./A = approximately 0.2 fl. oz./1000 sq. ft.

²16 fl. oz./A = approximately 0.4 fl. oz./1000 sq. ft.

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25%v/v).

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in a cool, dry place. Do not store diluted spray.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

(Nonrefillable \leq 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(Nonrefillable $>$ 5 gallons): Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE - LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Agri-Enterprises, LLC (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind; express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Agri-Enterprises, LLC's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

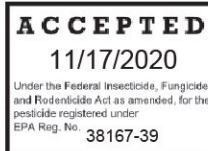
To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of

any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

Roundup Ready® is a registered trademarks of the Monsanto Company.

EPA 20150303

Supplemental Label



CLETHODIM 2 EC

EPA Reg. No. 38167-39

APPLICATION OF CLETHODIM 2 EC IN OKRA AND TREE NUTS CROP GROUP 14-12

This supplemental label expires May 23, 2023 and must not be used or distributed after this date.

THIS LABELING MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF APPLICATION. READ THE LABEL AFFIXED TO THE CONTAINER FOR CLETHODIM 2 EC BEFORE APPLYING. USE OF CLETHODIM 2 EC ACCORDING TO THIS LABELING IS SUBJECT TO THE USE PRECAUTIONS AND LIMITATIONS IMPOSED BY THE LABEL AFFIXED TO THE CONTAINER FOR CLETHODIM 2 EC.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Restriction: DO NOT plant rotational crops until 30 days after application of CLETHODIM 2 EC unless the crop is listed on CLETHODIM 2 EC label.

CROP SPECIFIC USE DIRECTIONS AND RESTRICTIONS FOR CLETHODIM 2 EC

Crops ⁽¹⁾	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ⁽²⁾	Special Use Instructions
Okra	3 days	6-8 fl oz (0.1-0.125 lb a.i.)	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
Restrictions DO NOT apply more than 8 fl oz/A (0.125 lb ai/A) in a single application. DO NOT make more than 4 applications per acre per year. DO NOT apply more than 32 fl oz/A (0.500 lb ai/A) per year.				

Crops ⁽¹⁾	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre ⁽²⁾	Special Use Instructions
<p>Tree Nuts Crop Group 14-12 including: African Nut-tree Almond Beechnut Brazil Nut Brazilian Pine Bunya Bur Oak Butternut Cajou Nut Candlenut Cashew Chestnut Chinquapin Coconut Coquito Nut Dika Nut Ginkgo Guiana Chestnut Hazelnut (Filbert) Heartnut Hickory Nut Japanese Horsechestnut Macadamia Nut Mongongo Nut Monkey-pot Monkey Puzzle Nut Okari Nut Pachira Nut Peach Palm Nut Pecan Pequi Pili Nut Pine Nut Pistachio Sapucaia Nut Tropical Almond Walnut, Black Walnut, English Yellowhorn Cultivars, varieties, and/or hybrids of these.</p>	<p>14 days</p>	<p>6-8 fl oz (0.1-0.125 lb a.i.)</p>	<p>1% v/v in the finished spray volume.</p>	<p>For repeat applications make on a minimum of a 14 day interval.</p>
<p>Restrictions DO NOT apply more than 8 fl oz/A (0.125 lb ai/A) in a single application. DO NOT make more than 4 applications per acre per year. DO NOT apply more than 32 fl oz/A (0.500 lb ai/A) per year.</p>				

- ¹ Clethodim 2EC is not to be used on vegetable crops being grown for seed production unless specific use directions are provided.
- ² Acceptable crop oil concentrates would be those which contain a minimum of 80% oils and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: be non-phytotoxic, contain only EPA-exempt ingredients, provide good mixing quality and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. See the Addition of Adjuvant and Crop Oil Concentrate section for further information.

**USE DIRECTIONS FOR ANNUAL GRASSES
ALL CROPS**

- Apply only to actively growing grasses at specified weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the specified growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

Restrictions

- **DO NOT** exceed the maximum per application rate listed in CROP SPECIFIC USE DIRECTIONS AND RESTRICTIONS FOR CLETHODIM 2 EC.
- **DO NOT** exceed the maximum yearly rate listed in Table 1, CROP SPECIFIC USE DIRECTIONS AND RESTRICTIONS FOR CLETHODIM 2 EC.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	APPLICATION RATES	
			MINIMUM RATE fl oz/A (lb a.i./A)	MAXIMUM RATE fl oz/A (lb a.i./A)
Barnyardgrass	<i>Echinochloa crus-galli</i>	2 to 8	6 (0.1)	8 (0.125)
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>	2 to 6	6	8
Brome				
California	<i>Bromus carinatus</i>	2 to 6	6	8
Cheat	<i>Bromus secalinus</i>	2 to 6	6	8
Downy	<i>Bromus tectorum</i>	2 to 6	6	8
Ripgut	<i>Bromus diandrus</i>	2 to 6	6	8
Canarygrass	<i>Phalaris canariensis</i>	1 to 4	6	8
Crabgrass				
Hairy	<i>Digitaria adscendens</i>	2 to 6**	6	8
Large	<i>Digitaria sanguinalis</i>	2 to 6**	6	8
Smooth	<i>Digitaria ischaemum</i>	2 to 6**	6	8
Southern	<i>Digitaria ciliaris</i>	2 to 6**	6	8
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	2 to 6**	6	8
Fall Panicum	<i>Panicum dichotomiflor</i>	2 to 8	6	8
Field Sandbur	<i>Cenchrus incertus</i>	2 to 6	6	8
Foxtail				
Giant	<i>Setaria faberi</i>	2 to 12	6	8
Green	<i>Setaria viridis</i>	2 to 8	6	8
Yellow	<i>Setaria glauca</i>	2 to 8	6	8
Goosegrass	<i>Eleusine indica</i>	2 to 6**	6	8
Itchgrass	<i>Rottboellia cochinchinensis</i>	2 to 6	6	8
Junglerice	<i>Echinochloa colona</i>	2 to 6	6	8
Lovegrass (Stinkgrass)	<i>Eragrostis cilianensis</i>	2 to 6	6	8

Rabbitsfootgrass	<i>Polypogon monspeliensis</i>	1 to 4	6	8
Red Rice	<i>Oryza sativa</i>	1 to 3	6	8
Rygrass				
Hardy	<i>Lolium remotum</i>	2 to 6	6	8
Italian	<i>Lolium multiflorum</i>	2 to 6	6	8
Seedling Johnsongrass	<i>Sorghum halepense</i>	4 to 10	6	8
Shattercane	<i>Sorghum bicolor</i>	6 to 18	6	8
Southwestern Cupgrass	<i>Eriochloa gracilis</i>	2 to 6	6	8
Sprangletop				
Amazon	<i>Leptochloa panicoides</i>	2 to 6	6	8
Bearded	<i>Leptochloa fascicularis</i>	2 to 6	6	8
Mexican	<i>Leptochloa uninervia</i>	2 to 6	6	8
Red	<i>Leptochloa filiformis</i>	2 to 6	6	8
Texas Panicum	<i>Panicum texanum</i>	2 to 6	6	8
Volunteer Cereals (²)				
Barley	<i>Hordeum vulgare</i>	2 to 6	6	8
Oats	<i>Avena sativa</i>	2 to 6	6	8
Rye	<i>Secale cereale</i>	2 to 6	6	8
Wheat	<i>Triticum aestivum</i>	2 to 6	6	8
Volunteer Corn (¹)	<i>Zea mays</i>	4 to 12	4 (0.06)	6 (0.1)
Volunteer Corn (¹)	<i>Zea mays</i>	12 to 24	6	8
Volunteer Corn (S.R.)	<i>Zea mays</i>	4 to 12	8 (0.125)	8
			(suppression only)	(suppression only)
Volunteer Grain Sorghum	<i>Sorghum bicolor</i>	8 to 12	6	8
Wild Oats	<i>Avena fatua</i>	2 to 6	6	8
Wild Proso Millet	<i>Panicum miliaceum</i>	2 to 10	6	8
Witchgrass	<i>Panicum capillare</i>	2 to 8	6	8
Woolly Cupgrass	<i>Eriochloa villosa</i>	2 to 8	6	8

*Generally occurs between 3-leaf stage and tillering.

**Length of lateral growth.

(¹) When a cereal grain crop (including wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment, the minimum CLETHODIM 2 EC use rate for control is 12 fl oz/A (0.091 lb ai/A).

(²) Includes Roundup Ready® , Liberty Link® and Clearfield® volunteer corn; however not Sethoxydim-Resistant volunteer corn.

USE DIRECTIONS FOR PERENNIAL GRASSES (ALL CROPS)

- Apply only to actively growing grasses at specified weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the specified growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height.

Restrictions

- **DO NOT** exceed the maximum per application rate listed in CROP SPECIFIC USE DIRECTIONS AND RESTRICTIONS FOR CLETHODIM 2 EC.
- **DO NOT** exceed the maximum yearly rate listed in Table 1, CROP SPECIFIC USE DIRECTIONS AND RESTRICTIONS FOR CLETHODIM 2 EC.

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL OZ/ ACRE (lb a.i./acre)
Bermudagrass (<i>Cynodon dactylon</i>)		
First Application	3 (or up to 6" runners)	8 (0.125)
Repeat Application(s)	3 (or up to 6" runners)	8
Fescue, Tall (<i>Festuca arundinacea</i>)		
First Application	4 to 8	8
Repeat Application(s) (if regrowth occurs)	4 to 8	8
Foxtail Barley (<i>Hordeum jubatum</i>)		
First Application	2 to 6	8
Repeat Application (if regrowth occurs)	2 to 6	8
Orchardgrass (<i>Dactylis glomerata</i>)		
First Application	4 to 8	8
Repeat Application(s) (if regrowth occurs)	4 to 8	8
Quackgrass (<i>Elytrigia repens</i>)		
First Application	4 to 12	8
Repeat Application(s) (if regrowth occurs)	4 to 12	8
Rhizome Johnsongrass (<i>Sorghum halepense</i>)		
First Application	12 to 24	8
Repeat Application(s) (if regrowth occurs)	6 to 18	8
Wirestem Muhly (<i>Muhlenbergia frondosa</i>)		
First Application	4 to 8	8
Repeat Application(s) (if regrowth occurs)	4 to 8	8
Perennial Bluegrass*		
[Roughstalk (<i>Poa trivialis</i>)]		
[Kentucky (<i>Poa pratensis</i>)]		
First Application	2 to 4	8
Repeat Application(s)	2 to 4	8
Bentgrass (<i>Agrostis</i> spp.)		
First Application	2 to 4	8
Repeat Application(s) (if regrowth occurs)	2 to 4	8

*Control of quackgrass, perennial bluegrass and bentgrass with Clethodim 2EC may be enhanced by adding Ammonium Sulfate (AMS) at 2.5 to 4.0 lb/A

TANK MIX - LABEL INFORMATION

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture, including all crop rotational and other crop restrictions. Those concerns may include, but are not limited to:

1. Geographic restrictions - all products are not registered for use in all areas and rates may vary from one region of labeled use to another;

2. Crop rotation restrictions;
3. Applicator certification requirements;
4. Worker safety rules (e.g. protective clothing, reentry time, posting);
5. Soil type or soil characteristics (e.g. pH, OM);
6. Maximum dosage or number of applications per year;
7. Rain free period required; or
8. Application timing (e.g. pre-harvest interval)
9. Restriction: **DO NOT** exceed the total yearly rates.

TANK MIX APPLICATION OF SELECT MAX HERBICIDE WITH INSIDE TECHNOLOGY AND BROADLEAF HERBICIDES FOR CONTROL OF GRASSES AND BROADLEAF WEEDS

- Apply only to actively growing grass and broadleaf weeds at specified height or growth stage listed on each label.
- Apply when the first grass or broadleaf weed species in a mixed population reaches the specified height or growth stage for treatment.
- Apply under favorable soil moisture and humidity that exist a few days after rainfall or within seven days after irrigation.
- Always add the appropriate adjuvant to the spray mix at the rate prescribed for each specific tank mix combination.
- Tank mix applications may sometimes result in reduced grass control and possible increases in crop injury as compared to either product used alone. If regrowth occurs, or an additional flush of new grass emerges, make a second application of CLETHODIM 2 EC, as specified in the respective size and rate tables.
- Restriction: **DO NOT** tank mix CLETHODIM 2 EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. While agitating, add the correct amount of CLETHODIM 2 EC. Agitation will create a rippling or rolling action on the water surface.
3. If tank mixing CLETHODIM 2 EC with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
4. Add any required adjuvants (crop oil concentrate, non-ionic surfactant and/or nitrogen solution).
5. Fill spray tank to desired level with water. Agitation must continue until all spray solution has been applied.

Failure to agitate the spray solution may result in improper mixing of the herbicides and unsatisfactory weed control. Verify mixing and compatibility qualities by a jar test.